Cl **FM** *SC* **FM** *P* **14** *L* **10** # 186

Dawe, Piers Nvidia

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

IEEE Std 802.3cv-20xx is listed as part of the base document on page 1, but not in the list in pp 11 to 13. P802.3cv was approved as a new standard by the IEEE SA Standards Board on 9 May 2021.

SuggestedRemedy

Change 20xx to 2021. On page 14, add a paragraph for IEEE Std 802.3cv-2021

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "IEEE Std 802.3cv-20xx" to "IEEE Std 802.3cv-2021"

Add the following description for .3cv

IEEE Std 802.3cv™-2021
Amendment 12—This amendment implements editorial and technical corrections, refinements, and clarifications to Clause 145, Power over Ethernet, and related portions of the standard. No new features are added by this amendment.

Cl **1** *SC* **1.4.237b** *P* **22** *L* **27** # 187

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D**

This says "from a transmitting DWDM PHY (TP2 or TP6) to...", which is clearly wrong because TP2 and TP6 are not PHYs nor at PHYs; as 164.2.4.2 says, they are at the output end of a patch cord, between 2 m and 5 m in length. It is important to be clear where TP2 and TP6 are so that transmitter measurements are done correctly. Notice that in this draft, "DWDM channel" appears nowhere except in the definition for "black link approach", and "black link approach" appears nowhere else.

SuggestedRemedy

Options are:
1. Change "from a transmitting DWDM PHY (TP2 or TP6) to a receiving DWDM PHY (TP3 or TP7)" to "from TP2 or TP6 associated with a transmitting DWDM PHY to TP3 or TP7 at a receiving DWDM PHY".
This is "correct" but weird, as all other optical clauses except 154 and 156 define the medium, fiber optic cabling or channel, as from MDI to MDI, which is preferable (same demarcation plane in both directions, doesn't leave an uncontrolled patch cord and connector).
2. Change "from a transmitting DWDM PHY (TP2 or TP6) to a receiving DWDM PHY (TP3 or TP7)" to "from a transmitting DWDM PHY to a receiving DWDM PHY", in 1.4.160a black link approach, change "from TP2 to TP3 or from TP6 to TP7" to "from MDI to MDI" or "from PMD to PMD", or delete. Adjust Figure 154-2, Block diagram for 100GBASE-ZR transmit/receive paths, to show the "DWDM channel" extending from MDI to MDI (the patch cord to TP2 can be part of that, or an alternative connection to the Tx MDI). Revise 154.6, The DWDM channel over a DWDM black link, so the single-channel points are MDIs rather than TP2 and TP3.
This is correct, consistent with other optical clauses, and sensible.
3. In 1.4.160a black link approach, change "path from TP2 to TP3 or from TP6 to TP7 for a given DWDM channel within a DWDM black link, without" to "path from TP2 to TP3 for a given DWDM channel within a DWDM black link, or from MDI to MDI for a given DWDM channel within a Super-PON medium, without".
This makes this clause correct, consistent with almost all other optical clauses, and sensible.
4. Delete the definitions for "DWDM channel" and "black link approach", In 164.2.4.2, delete "using the 'black link' approach". In Figure 164-3, Super-PON PMD Test Points, change "Black link" to "Super-PON medium" (similar to Figure 141-1, and 1.4.253 Community Antenna Television (CATV)-type broadband medium) or to "Super-PON optical path" (as in 164.2.8). Change 164.2.8 Black Link Specification to 164.2.8 Super-PON medium. Change "An example of black link implementation is described in Annex 164A" to "An example implementation of a Super-PON medium is described in Annex 164A". In Annex 164A, change "Super-PON black link implementation" or "black link implementation" to "implementation of a Super-PON medium" (several times).
This avoids the error and avoids unnecessary terminology and controversy.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

In 1.4.160a black link approach, change "path from TP2 to TP3 or from TP6 to TP7 for a given DWDM channel within a DWDM black link, without" to "path from TP2 to TP3 for a given DWDM channel within a DWDM black link, or from MDI to MDI for a given DWDM channel within a Super-PON medium, without".
This makes this clause correct, consistent with almost all other optical clauses, while not requiring changes to any clauses outside of .3cs.

Cl **1** *SC* **1.4.245c** *P* **22** *L* **32** # 107

Anslow, Pete Independent

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

Although some improvements in this respect have been made in D2.1, the text of 1.4.245c does not correctly reflect the changes that have been made from the published version of IEEE Std 802.3ca-2020:
"1.4.245c EQT: The unit of measurement of time for time-related parameters specified in IEEE Std 802.3, Clause 144 Multipoint MAC Control for Nx25G-EPON. Each EQT is equal to the time required to transmit one EQ between the MCRS and the PCS across 25GMII, and equal to 2.56 ns."

SuggestedRemedy

In the first sentence:
add "IEEE Std 802.3, " in plain black font before "Clause 144"
add " for Nx25G-EPON" in strikethrough font after "Multipoint MAC Control"
At the end of what is now the third sentence, ", and equal to 2.56 ns." has changed to ", the EQT is equal to 2.56 ns." so add "and" in strikethrough font and change "the EQT is" to underline font.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **1** *SC* **1.4.245c** *P* **22** *L* **34** # 112

DeSanti, Claudio Dell Technologies

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

"Each EQT is equal to the time required to transmit one EQ between the MCRS and the PCS in the downstream direction". Why just in the downstream direction? This time interval is the same also in the upstream direction

SuggestedRemedy

Remove "in the downstream direction"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **1** *SC* **1.4.275a** *P* **22** *L* **40** # 188

Dawe, Piers Nvidia

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

Free Spectral Range is not the range of frequencies (or wavelengths) over which the properties of an optical filter repeat. It is the distance between pairs of repetitions, as 164A.3 Wavelength Router, says: "AWGs are naturally cyclical and their repetition frequency is referred to as the free spectral range (FSR)".
Wikipedia quoting Hecht says: Free spectral range (FSR) is the spacing in optical frequency or wavelength between two successive reflected or transmitted optical intensity maxima or minima of an interferometer or diffractive optical element.

SuggestedRemedy

the spacing in frequency or wavelength between successive repetitions of the properties of an optical filter.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change definition 1.4.275a to read:

Free Spectral Range: the spacing in frequency or wavelength between successive repetitions of the properties of an optical filter.

Cl **1** *SC* **1.5** *P* **22** *L* **47** # 189

Dawe, Piers Nvidia

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

Chromatic Dispersion
Dispersion Compensation Module
Free Spectral Range
Passive Optical Network

SuggestedRemedy

chromatic dispersion
dispersion compensation module
free spectral range
passive optical network
Also in 1.4.231a

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45** *P***25** *L***1** # 234

Wienckowski, Natalie General Motors

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

I missed this when reviewing D2.0 and it appears everyone else did as well. The draft goes from 45 to 45.2.1 without the title for 45.2. Per the instructions in the template: Include existing headings for each layer above the heading being inserted or modified.]

SuggestedRemedy

Between 45 and 45.2.1 add: 45.2 MDIO Interface Registers

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1** *P***25** *L***16** # 232

Wienckowski, Natalie General Motors

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

A row with ellipsis was not added at the bottom of Table 45-3 per comments 63 & 95 on D2.0.

SuggestedRemedy

Add an ellipsis row after the existing last row

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.23a.1** *P***25** *L***32** # 190

Dawe, Piers Nvidia

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

This says "In the ONU, this bit indicates whether the downstream differential decoding is enabled in the ONU receive PMA": but it's RO so no-one can enable it, and all such ONUs do downstream differential decoding automatically, as 142.4.3, Differential decoder, says: "The ONU shall implement automatic detection of receive path differential encoding, and switch in the decoder as appropriate."

SuggestedRemedy

In the ONU, this bit indicates whether downstream differential decoding is active in the ONU receive PMA.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.134b** *P***27** *L***22** # 108

Anslow, Pete Independent

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

In Table 45-103b the descriptions for bits 1.1003.7:4 and 1.1003.3:0 are the same.
Since the text in 45.2.1.134b.6 Super-PON channel x (1.1003.3:0) says:
"This 4-bit field indicates the lowest numbered Super-PON transmit channel supported ..."
presumably, the description for bits 1.1003.3:0 should be:
"PMA/PMD first transmit channel supported"

SuggestedRemedy

In Table 45-103b change the description for bits 1.1003.3:0 to:
"PMA/PMD first transmit channel supported"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.134b** *P***27** *L***22** # 191

Dawe, Piers Nvidia

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

"Super-PON channel x PMA/PMD last transmit channel supported"
Compare 45.2.1.134b.6 "the lowest numbered Super-PON transmit channel"

SuggestedRemedy

Change last to first

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See #108

Cl **45** *SC* **45.2.3** *P***28** *L***31** # 192

Dawe, Piers Nvidia

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

and Super-PON EPON BER monitor threshold control

SuggestedRemedy

Delete "EPON"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.45** *P* **33** *L* **24** # 109

Anslow, Pete Independent

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

The title of Table 45-217 shows the changes that have already been made by IEEE Std 802.3ca-2020 and not the changes required for this amendment.

SuggestedRemedy

In the title of Table 45-217:
delete the "and" in strikethrough font
remove the underline from the first comma
remove the underline from ", and Nx25G EPON" and show the "and " in this text in strikethrough font instead
insert ", and Super-PON" in underline font after "Nx25G EPON"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **56** *SC* **56.1.2** *P* **36** *L* **29** # 113

Huber, Tom Nokia

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

The change shown in the first line (changing "two" to "the following") was already made in 802.3ca, so it should not be marked as a change here.

SuggestedRemedy

Change the editing instruction to say "Add item d to the lettered list in 56.1.2 (as modified by 802.3ca):". Change the first sentence to read "For P2MP optical fiber topologies, EFM supports the following systems:", with no change marks.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.6.1** *P* **49** *L* **10** # 227

Stassar, Peter Huawei Technologies

Comment Type **ER** *Comment Status* **D**

The row for TDP is ambigious.

SuggestedRemedy

Change row text to "Transmitter and dispersion penalty (TDP), for 0 to 910 ps/nm residual chromatic dispersion (CD)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164** *P* **41** *L* **3** # 145

Ran, Adee Cisco

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

This clause has PMD, PMA, PCS, as well as RS and MAC control. It is unusual in 802.3 to have all these in a single clause. Similar previous project 802.3ca had separate clauses 141-144.

Also, the clause name is inappropriate since MAC control defined in 164.5 is outside of the physical layer (as shown in Figure 164-2). Also RS is not part of the PHY (though confusingly it is part of the "physical layer")

SuggestedRemedy

Break this clause into multiple clauses.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

A single clause was allocated to this project, and given the scope of changes to .3cs clauses, it was decided that an aggregate approach for Super-PON would work best. No changes to the draft needed.

Cl **164** *SC* **164.1** *P* **41** *L* **7** # 203

Dawe, Piers Nvidia

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

Super-PON Overview - gratuitous capitals in several section and table headings

SuggestedRemedy

Change to:
164.1 Super-PON overview
164.2.2 PMD naming
Table 164-2--OLT and ONU pairings
and so on, including in the annexes

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.1** *P* **41** *L* **39** # 226

Stassar, Peter Huawei Technologies

Comment Type **TR** *Comment Status* **D**

The text makes reference to MDIs "as shown in Figure 164-1" but it not obvious from Figure 164-1 where they actually are. Similarly with reference to ODN in line 44, same page, it's not clear in Figure 164-1 what the boundaries of the ODN are

SuggestedRemedy

Change Figure 164-1 to show location of MDIs and boundaries of ODN

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.1.1** *P* **43** *L* **18** # 202

Dawe, Piers Nvidia

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

Figure 164-2 looks too much like Figure 141-1 where there is a single fibre at each MDI. In Figure 164-2, there should be two fibres at the OLT's MDI.

SuggestedRemedy

Show two fibres between the OLT's MDI and the box labelled "Black Link"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.1.1** *P* **43** *L* **23** # 225

Dawe, Piers Nvidia

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

Rogue capitals

SuggestedRemedy

PON Medium should be PON medium, Black Link should be Black link (or possibly something else; see another comment).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.2** *P* **42** *L* **39** # 194

Dawe, Piers Nvidia

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

"BASE" doesn't mean that the PMD uses a baseband signal, and these ones operate around 190 THz, far from baseband. See 1.2.3, Physical Layer and media notation, "The modulation type (e.g., BASE) indicates how encoded data is transmitted on the medium" and the similar Table 141-6, PMD naming elements, which avoids this error by leaving the cell blank.

SuggestedRemedy

Replace "PMD uses a baseband signal" with a long dash.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.4.2** *P* **46** *L* **6** # 204

Dawe, Piers Nvidia

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

The test points in Figure 164-3 should be shown more precisely, as in figures 141-2, 164-5 and 164-6.

SuggestedRemedy

TP2 and TP6 at output of patch cord (the crosses), TP3 and TP7 at the MDI.
Also, the OLT SIGNAL_DETECT arrows should point the other way.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.4.2** *P* **46** *L* **11** # 114

Ran, Adee Cisco

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

On the left side (OLT) SIGNAL_DETECT appears as if it is sent from the PMA to the PMD (twice), which seems wrong.

SuggestedRemedy

Change direction of the arrows.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** SC **164.2.6.1** P**48** L**41** # 116

Ran, Adee Cisco

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

Tbale 164-5 is continued into next page but continued table is not labeled accordingly.

Also in multiple other tables in this draft.

SuggestedRemedy

Add continuation flag.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** SC **164.2.6.1** P**48** L**47** # 219

Dawe, Piers Nvidia

Comment Type **ER** *Comment Status* **D**

The transmitter tables contain "Channel center frequencies" while 164.2.9.3 says "center wavelength". These need to be associated with each other.

SuggestedRemedy

In the transmitter tables, change "Channel center frequencies" to e.g. "Channel center wavelengths (frequencies)" or "Channel center wavelength (frequency)", or change 164.2.9.3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

In the transmitter tables, change "Channel center frequencies" to "Channel center wavelengths (frequencies)"

Cl **164** SC **164.2.6.1** P**48** L**47** # 115

Ran, Adee Cisco

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

In Table 164-5, "Channel center frequencies" is not a number but a pointer to a table, so "THz" is not appropriate here. Table 164-4 specifies the units.

Also inTable 164-7 and possibly other places.

SuggestedRemedy

Change "THz" to em dash, here and elsewhere as necessary

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** SC **164.2.6.1** P**48** L**50** # 217

Dawe, Piers Nvidia

Comment Type **ER** *Comment Status* **D**

"Maximum mean channel output power" is not the 802.3 term for this, and it's confusing because it is not the power at the output of the channel (= optical path) at all, it's close to the power at its input. The style manual 10.1.1 Homogeneity, says "The same term should be used throughout each standard or series of standards to designate a given concept".

SuggestedRemedy

Change to "Average launch power, each channel (max)", as in Clause 141. Similarly for "Minimum mean channel output power" and in Table 164-7, so 4 places in all.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** SC **164.2.6.1** P**49** L**1** # 218

Dawe, Piers Nvidia

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

Split table

SuggestedRemedy

First table part should have a thin line at the bottom, second title should say "(continued)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** SC **164.2.6.2** P**49** L**37** # 117

Ran, Adee Cisco

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

dB (0.1 nm) is not a standard unit and its meaning is not clear here.

also in Table 164-8.

SuggestedRemedy

Change to dB and add a footnote explaining the intent as necessary.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add footnote "OSNR measured with 0.1 nm specrtal resolution".

Cl **164** *SC* **164.2.6.2** *P* **49** *L* **45** # 118

Ran, Adee Cisco

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

foortnotes a and B include "with ONU transmitter ER of 6.0 dB ER" - ER is not a defined abbreviation and redundantly appears twice. I assume it means extinction ratio.

SuggestedRemedy

Change to "with ONU transmitter extinction ratio of 6 dB (see 164.2.9.5)".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.6.2** *P* **49** *L* **46** # 221

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D**

As the receiver doesn't choose its input power, I don't know what you mean by "Receiver minimum power test". 802.3 is not a test spec, no test has "to be performed".

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 ONU ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.6.2** *P* **49** *L* **46** # 222

Dawe, Piers Nvidia

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

There are "ER" PHY types; otherwise, ER has not been defined yet, except in passing in 164A.5.4. No need to define it for two uses. Unwanted trailing zero (see 1.2.6, Accuracy and resolution of numerical quantities, and https://ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers).

SuggestedRemedy

Change "with ONU transmitter ER of 6.0 dB ER" to "with ONU transmitter extinction ratio of 6 dB" (twice, if both notes remain).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.7.1** *P* **50** *L* **28** # 228

Stassar, Peter Huawei Technologies

Comment Type **ER** *Comment Status* **D**

The row for TDP is ambigious.

SuggestedRemedy

Change row text to "Transmitter and dispersion penalty (TDP),[first conditional subline] for -600 to +50 ps/nm residual CD, [second conditional subline] for -600 to +1020 ps/nm residual CD

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.7.1** *P* **50** *L* **45** # 229

Stassar, Peter Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Unities in the formula are not clear

SuggestedRemedy

Clarify whether power and ER are in dB(m) or linear

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert units:
- dBm for power
- dB for ER

Cl **164** *SC* **164.2.7.1** *P* **50** *L* **48** # 216

Dawe, Piers Nvidia

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

Ambiguous: ER might be in W/W or dB. An equation needs a "where" section saying what Pmin and ER are, and in what units.

SuggestedRemedy

Add the usual "where" section.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #229

"where Pmin is in dBm and ER is in dB"

Cl **164** *SC* **164.2.8** *P***51** *L***38** # 196

Dawe, Piers Nvidia

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

Table layout

SuggestedRemedy

Select all the table, resize column widths according to contents. Try it on Table 164-10 too.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.2** *P***52** *L***34** # 119

Ran, Adee Cisco

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

Test patterns should be defined, but _using_ them is not a normative requirement for a PMD.

SuggestedRemedy

Change "2.5 Gb/s optical PMDs shall use the same signals" to "2.5 Gb/s optical PMDs are tested with the same signals".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.3** *P***52** *L***39** # 120

Ran, Adee Cisco

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

"The center wavelength shall meet the specifications"

There are no specifications of center wavelength in this clause, only of center frequency.

SuggestedRemedy

Change "wavelength" to "frequency" in the text and in the note, also in PICS and Annex 164C and elsewhere as necessary.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "wavelength" to "frequency" in the text and in the note. Update PICS

Cl **164** *SC* **164.2.9.3** *P***52** *L***39** # 224

Dawe, Piers Nvidia

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

Now that we have a reference that covers SMSR (see another comment)

SuggestedRemedy

Change title from "Wavelength measurement" to "Wavelength and side-mode suppression ratio (SMSR)". Include SMSR in the text, with a null pattern for the ONU, as Table 164-7 says, but with modulation and specified pattern options for the OLT.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.3** *P***52** *L***39** # 205

Dawe, Piers Nvidia

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

TIA-455-127-A for wavelength measurement

SuggestedRemedy

IEC 61280-1-3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.3** *P***52** *L***40** # 121

Ran, Adee Cisco

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

"an appropriate PRBS" is a confusing definition. A person reading this text may wonder which PRBS is appropriate.

"… or a valid Super-PON signal, or another representative test pattern" - there is no definition of a valid super-PON signal. Here it seems to refer to a bit pattern. It should probably mean PCS/FEC encoded Ethernet traffic, but can be interpreted as only optically compliant or electrically compliant, which would include all sorts of pathological patterns.

It is even more confusing that the previous sibclause 164.2.9.2 specifically defines the test patterns for optical PMDs - so why not refer to this subclause?

The phrase "or another representative test pattern" is sufficiently vague to include the required patterns and exclude the irrelevant ones.

Also applies in several other subclauses.

This issue also exists in 802.3ca, and appropriate resolution here would be good for future maintenance action.

SuggestedRemedy

Change "an appropriate PRBS or a
valid Super-PON signal" to "patterns 1, 2, or 3 (see 164.2.9.2)"

Apply in other places where "valid Super-PON signal" apperas, as necessary.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.3** *P***52** *L***40** # 220

Dawe, Piers Nvidia

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

With regard to D2.0 comment 28, the commenter is correct that "an appropriate PRBS or a valid Super-PON signal, or another representative test pattern" is too vague; it is the standard's responsibility to say what is acceptable and/or what isn't.

SuggestedRemedy

Clarify what you mean. There are plenty of other optical PMD clauses you can copy from for wavelength, and some for SMSR. You may need to say which patterns are acceptable for some other parameters, particularly ones defined by reference to ITU-T specifications. See P802.3ct, 154.9.1, Test patterns for optical parameters, for a recent example.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #121

Cl **164** *SC* **164.2.9.4** *P***52** *L***47** # 206

Dawe, Piers Nvidia

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

ANSI/EIA-455-95 for optical power measurements

SuggestedRemedy

IEC 61280-1-1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.6** *P***53** *L***4** # 122

Ran, Adee Cisco

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

RINxOMA is not specified in this clause.

SuggestedRemedy

Change to RIN15OMA here and in the PICS.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.7** *P***53** *L***13** # 211

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D**

88.8.8 defines the eye with a 19.34 GHz observation bandwidth and a 10 MHz jitter corner frequency - not suitable for 10G or 2.5G transmitters.

SuggestedRemedy

For 10G, you could follow 158.8.7. 2.5G would need different observation bandwidth and jitter corner frequency.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **164** *SC* **164.2.9.9** *P***53** *L***39** # 223

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D**

This says "The required sensitivity values and associated BER are given in Table 164-6 for the OLT receiver and Table 164-8 for the ONU receiver." The tables have bit error ratio (max), but no sensitivity.

SuggestedRemedy

Change the terminology to be consistent. Combine this subclause with 164.2.9.10, Receiver OSNR tolerance, if appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **164** *SC* **164.2.9.11** *P***53** *L***48** # 207

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **X**

What does this mean: "Jitter measurements described in 52.8.1 shall be used for both 2.5 Gb/s and 10 Gb/s signals"? 52.8.1 is "Sinusoidal jitter for receiver conformance test", with a 4 MHz corner frequency. This jitter is applied to the receiver rather than measured. Also, what corner frequency do you mean to use for 2.5 Gb/s?

SuggestedRemedy

Please clarify

Proposed Response *Response Status* **W**

Discuss in TF

Cl **164** *SC* **164.2.9.12.1** *P***54** *L***3** # 123

Ran, Adee Cisco

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

"beginning from the falling edge of the Tx_Enable line"

This is confusing. 164.2.4.1.4 says "The tx_enable parameter can take on one of two values: ENABLE or DISABLE". With these values there is no clear definition of "falling edge" (I would expect the semantic of 0=disable, 1=enable, since Tx_enable is "asserted", so t_on would be from the rising edge, not the falling edge).

Conversely in the next paragraph which talks about the rising edge.

If there is a reason to use the unusual semantics 1=disable and 0=enable, then a new variable should be defined with corresponding mapping from the tx_enable parameter of PMD_SIGNAL.request. But preferably, the polarity in the figure should be flipped and the text modified accordingnly.

This problem exists in 802.3ca and should be handled in maintenance. If there is a conflict with precedence, then this definition can be replaced by a reference to 141.7.13.1 with exception of the optical parameters if necessary, and the polarity can be fixed in maintenance.

SuggestedRemedy

Either of the following:

1. Change to "from the transition of tx_enable from DISABLE to ENABLE" and update the figure accordingly (using state rather than level).

2. Define a new variable with value 1 or 0 corresponding to tx_disable values disable or enable respectively, and use it instead

3. Replace this subclause content with a reference to 141.7.13.1 and any exceptions necessary.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace 164.2.9.12.1 with "See 141.7.13.1.". Make the link live.

Cl **164** *SC* **164.2.9.12.1** *P***54** *L***4** # 124

Ran, Adee Cisco

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

"is within 15% of its steady state parameters (average launched power, wavelength, RMS spectral width, transmitter and dispersion penalty, optical return loss tolerance, jitter, RIN15OMA, extinction ratio and eye mask opening"

"within 15%" makes sense for average launched power but clearly not for wavelength (specified as frequency). Other parameters may also have other allowed ranges.

This problem exists in 802.3ca and should be handled in maintenance. If there is a conflict with precedence, then this definition can be replaced by a reference to 141.7.13.1 with exception of the optical parameters if necessary, and the problem can be fixed in maintenance.

SuggestedRemedy

Change to "within 15% of its average launched power, and meets all other specifications".

Or replace the subclause conetnt with a reference to 141.7.13.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #123.

Cl **164** *SC* **164.2.9.12.1** *P***54** *L***7** # 125

Ran, Adee Cisco

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

"The data transmitted may be any valid 256B/257B symbol"

"valid 256B/257B symbol" is not defined anywhere, and may be interpreted as including repeated patterns which do not represent real traffic and don't allow the required measurements.

For T_off the following paragraph says "any of the patterns listed in Table 88-10" - is there a reason to have different specification?

Since this is a definition, this statement is redundant.

SuggestedRemedy

Delete the quoted sentence, or refer to table 88-10 instead.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #123.

Cl **164** *SC* **164.2.9.12.1** *P***54** *L***8** # 197

Dawe, Piers Nvidia

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

This says "The data transmitted may be any valid 256B/257B symbol". The signal during Ton shouldn't be data (= payload), it should be the SP1 zone of the synchronization pattern, or a signal with equivalent properties. It would be very unwise to use just any single 256B/257B symbol, which could be unbalanced and untypical.

SuggestedRemedy

Change "The data transmitted may be any valid 256B/257B symbol." to "The transmitted signal may be Pattern 3, Pattern 5 (see Table 88-10) or a valid 10GBASE-SP1-U or 10/2.5GBASE-SP1-U sequence."
Similarly in 164.2.9.13.1, which has the further problem that the last two sentences contradict each other.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #123

Cl **164** *SC* **164.2.9.12.1** *P***54** *L***12** # 126

Ran, Adee Cisco

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

"the specified average launch power of off transmitter"

Table 164–7 has entry "Average launch power of OFF transmitter (max)". The threshold should be the maximum allowed, and OFF should be un upper case.

SuggestedRemedy

Change the quoted phrase to "the maximum specified average launch power of OFF transmitter"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #123.

Cl **164** *SC* **164.2.9.12.2** *P* **54** *L* **34** # 198

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D**

Long ago, there was a test specification companion standard to 802.3, which has been withdrawn. 802.3 does not specify tests, it specifies observable behaviour, which may be defined by measurement methods, which may look a bit like tests. Also, the contents of this section are too informal and, as it says, non-rigorous, to be a test specification.

SuggestedRemedy

Change "Test specification" to e.g. "Measurement method" or "Example test setup".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace 164.2.9.12.1 with "See 141.7.13.2, replacing 'TP4[i]' with 'TP4'.". Make the link live.

Cl **164** *SC* **164.2.9.12.2** *P* **54** *L* **36** # 127

Ran, Adee Cisco

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

Since TP4 is "not readily testable in a system implementation" (per 164.2.4.2) this test cannot be normative - it is an example of a test setup which may not be implementable in practice.

Also, in such an example the word "must" must not be used.

SuggestedRemedy

Rephrase the subclause to clarify that this is an example, without "must" (use "is" instead)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #198

Cl **164** *SC* **164.2.9.12.2** *P* **54** *L* **40** # 199

Dawe, Piers Nvidia

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

"The delay to the scope trigger is adjusted until the point that the received signal meets all its specified conditions." is not a complete sentence: until this point does what?

SuggestedRemedy

Change to: ...adjusted to the point...?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #198

Cl **164** *SC* **164.2.9.13** *P* **54** *L* **50** # 128

Ran, Adee Cisco

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

"Trx_settling is defined in 164.2.9.13.1 and has a value of less than 800 ns."

This looks like a specification, but It may not be possible to measure the electrical signal at TP8, and there are no specifications of "steady state amplitued and jitter" in Table 164-6. also the next sentence says "(informative)".

the subordinate subclauses 164.2.9.13.1 and 164.2.9.13.2 include the word "specification" which is inappropriate for an unaccessible interface, as well as several non-standard-language terms.

SuggestedRemedy

Rephrase this subclause (including its subordiates) as a recommendation for the PMD electrical interface which may not be possible to verify in a packaged product. Remove the words "specification", "conformance", "must", "assured", etc., and add more specificity about the "steady state conditions".

It may be preferably to merge this recommendation into the PMA TCDR specification (which is measurable).

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Text as is follows closely the text from 802.3ca-2020, 141.7.14. If any specific changes are needed, they would need to be applied to both locations accordingly.

Cl **164** *SC* **164.2.9.13** *P* **54** *L* **51** # 193

Dawe, Piers Nvidia

Comment Type **ER** *Comment Status* **D**

This says "illustrated in 164.2.9.13.2 (informative)". 164.2.9.13.2 says it is a "Test specification", which would be normative, and I don't think informative subclauses in normative clauses are allowed these days. 802.3 does not do test specifications (explained further in another comment).

SuggestedRemedy

Delete "(informative)". Change "Test specification" to e.g. "Measurement method" or "Example test setup".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Delete "(informative)".

Cl **164** *SC* **164.2.9.13.2** *P***56** *L***36** # 233

Wienckowski, Natalie General Motors

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

Comment #82 was accepted but not implemented.

SuggestedRemedy

Change: parameters of the reference transmitter, at TP6 and therefore at TP7, reach within 15% of its steady state
To: parameters of the reference transmitter, at TP6 and therefore at TP7, reach within 15% of their steady state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.15** *P***57** *L***8** # 195

Dawe, Piers Nvidia

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

This text for clear link passband, "the frequency/wavelength range that the signal is expected to stay within" describes something else, the maximum spectral excursion. First sentence has no verb. Ripple can be measured where one likes, the point is that the spec applies only in this range. Double full stop.

SuggestedRemedy

Change "The frequency/wavelength range that the signal is expected to stay within. The maximum ripple parameter is measured only for frequencies/wavelengths within the clear link passband.." to "The clear link passband is the frequency/wavelength range that a wavelength channel is expected to provide for the signal. The maximum ripple [parameter] applies [only] for frequencies/wavelengths within the clear link passband."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.22** *P***57** *L***43** # 200

Dawe, Piers Nvidia

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

802.3cu has a parameter "transmitter power excursion" for a single non-burst signal. The name of this "maximum power excursion" is too similar, and "the maximum difference in optical insertion loss between all channels" is not the max difference in powers because the ONU Tx power range (e.g. 5 dB) has to be added to it.

SuggestedRemedy

Rename to "maximum range of loss" or "maximum loss excursion"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.9.23** *P***57** *L***48** # 201

Dawe, Piers Nvidia

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

This says "The burst-mode gain excursion is the maximum allowed change in gain/loss of the ODN in the upstream direction across all upstream traffic loads". Yet according to 164.1, the ODN excludes the mux/amp where the preamp is. Is this what you mean?

SuggestedRemedy

Should "the ODN" be "a channel", "the black link" or similar?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "the ODN" to "a channel"

Cl **164** *SC* **164.2.9.23** *P***57** *L***51** # 129

Ran, Adee Cisco

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

"Since the channels are asynchronous, having 4 out of the 16 wavelength channels burst synchronously is sufficiently low robability event"

This draft does not have any requirement of the utilization of each of the wavelength. Is it impossible that a wavelength is used in the upstream direction >50% of the time (e.g. by different subscribers)? if so, having 4 out of 16 wavelengths active (burst) synchronously would occur very frequently.

SuggestedRemedy

Clarify what is the low probability event and explain why, or delete this statement (it is informative at most)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Make that sentence a note or remove it.

This has nothing to do with utilization

Cl **164** *SC* **164.2.10.1** *P* **58** *L* **4** # 130

Ran, Adee Cisco

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

General safety is now in annex J (added by 802.3cr)

SuggestedRemedy

Use the language of all other optical PMDs: "All equipment subject to this clause shall conform to the general safety requirements as specified in J.2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.10.4** *P* **58** *L* **29** # 131

Ran, Adee Cisco

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

"deg C"

SuggestedRemedy

Change "deg" to degree symbol

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.2.12.3** *P* **61** *L* **17** # 110

Anslow, Pete Independent

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

The Status entry of "O.1" defines a group where "at least one of the group of options labeled by the same numeral <n> is required".
This is appropriate for the group of items *SPG10D, *SPG10U, *SPG102.5D, and *SPG102.5U but this should not include *INS

SuggestedRemedy

Change the status entry for item *INS to "O"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.3.1.2** *P* **65** *L* **30** # 132

Ran, Adee Cisco

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

The heading is "delay constraints" but the text includes constraints on delay variation.

In most other clauses "delay constraints" refers to constraints on the delay.

The coresponding subclause 164.5.3.3 uses "delay variability constraints".

SuggestedRemedy

Change the heading to "delay variation constraints" (or use "variability").

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This subclause title has been in use for a while now. Variation is effectively defining a delay contrain boundaries. No change is needed.

Cl **164** *SC* **164.3.4.3** *P* **69** *L* **17** # 133

Ran, Adee Cisco

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

"the PMA transmit clock is equal 10.3125 / 257 GHz" - poor technical language.

Similarly for the 2.5G cause, next sentence.

SuggestedRemedy

Change to "the nominal frequency of the PMA transmit clock is 10.3125 / 257 GHz" and similarly for 2.5G.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.3.4.3.1** *P***69** *L***23** # 134

Ran, Adee Cisco

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

"the PMA transmit clock is derived from the PMA receive clock by dividing the latter by 4"

The clock is not divided, its frequency is divided, and how this is achieved is implementation dependent (likely not a simple "clock divider".

SuggestedRemedy

Change to
"the PMA transmit clock is derived from the PMA receive clock with a frequency of exactly 1/4 of the latter".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.3.4.4.1** *P***69** *L***32** # 135

Ran, Adee Cisco

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

"after the PMD" is undefined, and it's redundant if TP8 is mentioned.

SuggestedRemedy

Delete "after the PMD".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.3.4.4.1** *P***69** *L***36** # 136

Ran, Adee Cisco

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

There are two conflicting definitions of TCDR. Does it start "when the electrical signal after the PMD at TP8 (see 164.2.4.2), as illustrated in Figure 164–4, reaches the conditions specified in 164.2.9.13 " (first paragraph) or at "the appearance of a valid synchronization pattern" (second paragraph)?

The actual definition seems to be in the test specification (164.3.4.4.2) which looks like an interpretation of the requirement; but it is actually the only measurable requirement.

164.3.4.4 can be rewritten more concisely and clearly.

SuggestedRemedy

Delete 164.3.4.4.1 and merge the content of 164.3.4.4.2 to the parent 164.3.4.4.

Place the normative requirement in the text currently at 164.3.4.4.2 by changing from:

"If the SP2 block time counting both forward and backward is less than the specified TCDR maximum time of 400 ns, then the CDR performance meets the requirement"

to

"The SP2 block time counting both forward and backward shall be less than 400 ns"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.4.1** *P***74** *L***5** # 137

Ran, Adee Cisco

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

Missing space in TheSuper-PON

SuggestedRemedy

Insert a space

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.4.4.4.2** *P* **75** *L* **44** # 138

Ran, Adee Cisco

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

Definition of EnvTx is cryptic and seems the same as in clause 143.

It is unclrear if there is really a varibale definition here.

This issue originates in 802.3ca, and appropriate resolution here would be good for future maintenance action.

SuggestedRemedy

Rephrase to a clear variable definition, or delete.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The definition in 143.4.1.3.2 Transmit variables in .3ca is just a Nx25G-EPON application-specific parameters, which build on definitions in 143.3.3.4 Variables, where EnvTx is defined correctly. EnvTx in 143.4.1.3.2 Transmit variables is just used to assign the value for the variable defined eslewhere. The same approach is used in .3cs. No change needed.

Cl **164** *SC* **164.5.1** *P* **81** *L* **14** # 139

Ran, Adee Cisco

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

"for subscriber access devices containing point-to-multipoint (P2MP) Physical Layer devices defined in Clause 164"

Clause 164 is this very clause. There is no need for self-reference. (this text is taken from clause 144 which only defined the MAC control and not the PHYs).

SuggestedRemedy

Unless subclause 164.5 is broken out of 164 (which may be required, since it defines a non-PHY subplayer), change "in Clause 164" to "in this clause".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "(P2MP) Physical Layer devices defined in Clause 164." to "(P2MP) Physical Layer devices defined in 164.5."

Cl **164** *SC* **164.5.2.1.2** *P* **83** *L* **20** # 140

Ran, Adee Cisco

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

"This variable is advanced by a timer at 156.25 MHz, and is equivalent to one EQT."

How is a variable equivalent to one EQT?

The intent seems to be that it is advanced once per EQT.

This issue originates in 802.3ca, and appropriate resolution here would be good for future maintenance action.

SuggestedRemedy

Change to "This variable is advanced once per EQT."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164** *SC* **164.5.3.3** *P* **84** *L* **12** # 141

Ran, Adee Cisco

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

"A compliant implementation needs to guarantee a constant delay"

An implementation can be compliant or not but it is not required to guarantee anything. Also, the delay is not necessarily constant (the variation requirement is not 0).

"however, a complying implementation shall maintain the combined delay variation..." - too many words; The word "shall" is a compliance requirement.

SuggestedRemedy

Change "A compliant implementation needs to guarantee a constant delay" to "Implementations need to limit the delay variation".

Change
"a complying implementation shall maintain the combined delay variation through the MAC and PHY of"
to
"the combined delay variation through the MAC and PHY shall be"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Same text exists in other published specifications. No change needed.

Cl **164A** *SC* **164A** *P* **97** *L* **3** # 208

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D**

This Annex 164A says it is informative yet 164A.2.1, MUX/DEMUX characteristics, says "The required specifications for the flat-top AWG based MUX/DEMUX are shown in Table 164A-2", 164A.2.2, Booster optical amplifier characteristics, says "The required specifications for the constant gain EDFA based downstream booster amplifier are shown in Table 164A-3", 164A.2.4, Preamp characteristics, says "The required specifications for the gain-clamped EDFA based upstream preamplifier are shown in Table 164A-5", and 164A.3, Wavelength Router, says "The required specifications for the cyclical AWG based wavelength router are shown in Table 164A-6".

SuggestedRemedy

Make the annex normative, with requirements and PICS, or normative with recommendations, or informative with examples.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Make the annex fully informative.

Cl **164A** *SC* **164A.1** *P* **97** *L* **44** # 214

Dawe, Piers Nvidia

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

this Annex

SuggestedRemedy

this annex

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164A** *SC* **164A.2.1** *P* **98** *L* **32** # 142

Ran, Adee Cisco

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

"The required specifications for the flat-top AWG based MUX/DEMUX"

This is an informative annex so it can't include specifications or requirements. This may be an example or recommendation. Also table 164a-2 heading and many other places in this annex.

SuggestedRemedy

Rephrase to clarify informativeness, throughout this annex.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #208

Cl **164A** *SC* **164A.2.1** *P* **98** *L* **43** # 143

Ran, Adee Cisco

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

Table 164A–2 has parameters with units in brackets in the parameter column.

In 802.3 it is customary for tables to have a "units" column instead, when each row has one unit.

Also in other tables in this Annex.

SuggestedRemedy

Add a "units" column and move the units there.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164A** *SC* **164A.2.2** *P* **99** *L* **46** # 209

Dawe, Piers Nvidia

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

"For deployments using class 3 lasers, fault detection with automatic power reduction is required:" Who says?

SuggestedRemedy

If this document says, it can't be in an informative annex, and it needs a PICS. If an international standard says, give the reference. If a national or local law says, explain. Editorial: Class 3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace "is required" with "is suggested".

Cl **164A** *SC* **164A.2.3** *P* **99** *L* **51** # 210

Dawe, Piers Nvidia

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

bidi-
rectional

SuggestedRemedy

bi-
directional

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164A** *SC* **164A.2.5** *P* **101** *L* **18** # 212

Dawe, Piers Nvidia

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

"FBG DCMs are channelized and able to cover the full C- and L-bands. ... FBG DCMs are likely to be channelized." Which is it, "are" or "are likely to be"?

SuggestedRemedy

Revise the paragraph to make it consistent

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Use "are likely to be"

Cl **164A** *SC* **164A.5.3** *P* **104** *L* **38** # 213

Dawe, Piers Nvidia

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

stokes

SuggestedRemedy

Stokes

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164A** *SC* **164A.5.4** *P* **105** *L* **51** # 231

Stassar, Peter Huawei Technologies

Comment Type **ER** *Comment Status* **D**

There is a hyphen between 1 and dB, which should be a space

SuggestedRemedy

There is a hyphen between 1 and dB, which should be a space

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164A** *SC* **164A.5.4** *P* **106** *L* # 230

Stassar, Peter Huawei Technologies

Comment Type **ER** *Comment Status* **D**

Y-axis title (referring to sensitivity penalty) inconsistent with Figure Title referring to chromatic dispersion penalty

SuggestedRemedy

Change Y-axis title to "chromatic dispersion penalty"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164B** SC **164B.2** P**108** L**37** # 111

Anslow, Pete Independent

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

The IEEE 802.3 web page:
https://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers
includes:
"In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."

SuggestedRemedy

Change "at least 10,000." to "at least 10 000."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164B** SC **164B.2** P**108** L**37** # 144

Ran, Adee Cisco

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

Per the style manual, comma is not an allowed thousands separator.

SuggestedRemedy

Change "10,000" to "10 000" or preferably 10^4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **164C** SC **164C.1** P**110** L**22** # 215

Dawe, Piers Nvidia

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

envelop

SuggestedRemedy

envelope (3 times)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.