Cl **FM** *SC* **FM** *P* **7** *L* **25** # 10

Anslow, Pete Independent

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

The list of participants in Working Group ballot should not include the officers of the Working Group or Task Force who are already listed above.
Also, "iam Lo" should presumably be "William Lo"

SuggestedRemedy

Remove the names of the officers of the Working Group and Task Force from the list.
Correct "iam Lo"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **FM** *SC* **FM** *P* **8** *L* **3** # 45

Grow, Robert RMG Consulting

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

The WG member header paragraph has changed.

SuggestedRemedy

Replace with: The following individuals were officers and members of the IEEE 802.3 Working Group at the beginning of the IEEE P802.3ch Working Group ballot.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace with "The following individuals were officers and members of the IEEE 802.3 Working Group at the beginning of the IEEE P802.3cp Working Group ballot."

Cl **FM** *SC* **FM** *P* **13** *L* **7** # 11

Anslow, Pete Independent

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

Paragraph mark missing after the 802.3cp abstract text.

SuggestedRemedy

Insert a paragraph mark before "Two companion ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **FM** *SC* **FM** *P* **13** *L* **7** # 46

Grow, Robert RMG Consulting

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

Missing space after full stop.

SuggestedRemedy

Insert space after full stop.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **1** *SC* **1.4** *P* **21** *L* **6** # 19

Dawe, Piers Nvidia

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

"The link includes two different specifications": as I said, I know this is copied from before but it is still technically wrong. It disagrees with the definition of "link" in 1.4.302: "The transmission path between any two interfaces of generic cabling. (From ISO/IEC 11801.)". A link being a thing not a document does not contain specifications.

SuggestedRemedy

Change "The link includes two different specifications for 10GBASE-BR10-D and 10GBASE-BR10-U." to e.g. "There are different specifications for 10GBASE-BR10-D and 10GBASE-BR10-U; a link connects one to the other." Similarly for the other PMD pairs. Consult the maintenance committee for correct wording. Fixing e.g. 100BASE-BX10 can be done in maintenance.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change it into "There are different specifications for 10GBASE-BR10-D and 10GBASE-BR10-U; a link connects one to the other."

Apply similar changes to other new definitions in 1.4

Cl **30** *SC* **30.5.1.1.2** *P* **22** *L* **12** # 12

Anslow, Pete Independent

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

Inserting the 10G PHY types after 5GBASE-T would place them between 5GBASE-T and 5GBASE-T1 as inserted by IEEE Std 802.3ch-2020.
It seems more appropriate to insert the new PHY types after 10GBASE-T.

SuggestedRemedy

Change "after 5GBASE-T" to "after 10GBASE-T"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Check out recent Amendements and projects to find the correct insertion location.

Cl **30** *SC* **30.5.1.1.2** *P* **22** *L* **34** # 13

Anslow, Pete Independent

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

Inserting the 25G PHY types after 10GBASE-PR-U4 would place them before the generic 25GBASE-R entry.
It seems more appropriate to insert the new PHY types after 25GBASE-T.

SuggestedRemedy

Change "after 10GBASE-PR-U4" to "after 25GBASE-T"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Check out recent Amendements and projects to find the correct insertion location.

Cl **30** *SC* **30.5.1.1.2** *P* **23** *L* **1** # 14

Anslow, Pete Independent

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

Inserting the 50G PHY types after 40GBASE-T would place them before the generic 50GBASE-R entry.
It seems more appropriate to insert the new PHY types after 50GBASE-ER.

SuggestedRemedy

Change "after 40GBASE-T" to "after 50GBASE-ER"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Check out recent Amendements and projects to find the correct insertion location.

Cl **44** *SC* **44.3** *P* **24** *L* **6** # 47

Grow, Robert RMG Consulting

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

Not a valid Change editorial instruction as all text is inserted (no unchanged text) and no insert location is provided.

SuggestedRemedy

The instruction should be an Insert with a specific location. For example, 'Insert new row at the end of Table 44–2, as modified by IEEE Std 802.3ch-2020, as follows (unchanged rows not shown):' Alternately, include an adjacent unchanged row to act as a location reference (risking additional coment by showing an unchanged row contrary to the instruction.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change editorial instruction as "Insert new row at the end of Table 44–2, as modified by IEEE Std 802.3ch-2020, as follows (unchanged rows not shown):"

Cl **45** *SC* **45..2.1.6** *P* **26** *L* **15** # 15

Anslow, Pete Independent

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

The relevant reserved values for bits 1.7.6:0 were changed from being 1 1 x x x x x by IEEE Std 802.3cn-2019.

SuggestedRemedy

Remove the row in strikethrough for 1 1 x x x x x = reserved
change the remaining entries to:
1 1 1 x x x x = reserved [in strikethrough]
1 1 1 1 1 x x = reserved [underlined]
1 1 1 1 0 1 x = reserved [underlined]
1 1 1 1 0 0 1 = reserved [underlined]
1 1 1 1 0 0 0 = 50GBASE-BR40-U PMA/PMD [existing row underlined]
1 1 1 0 1 1 1 = 50GBASE-BR20-U PMA/PMD [existing row underlined]
...
1 1 1 0 0 0 0 = 25GBASE-BR10-U PMA/PMD [existing row underlined]
1 1 0 1 x x x = reserved [in strikethrough]
1 1 0 1 1 1 1 = 25GBASE-BR40-D PMA/PMD [existing row underlined]
...
1 1 0 1 0 0 0 = 10GBASE-BR20-D PMA/PMD [existing row underlined]
1 1 0 0 1 x x = reserved [in strikethrough]
1 1 0 0 1 1 1 = 10GBASE-BR10-D PMA/PMD [existing row underlined]
1 1 0 0 1 1 0 = reserved [underlined]
1 1 0 0 1 0 x = reserved [underlined]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.7.1** *P* **27** *L* **24** # 16

Anslow, Pete Independent

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

The order of entries in Table 45-9 above 10G is by speed and then reach for the first PHY type in each row.

SuggestedRemedy

Move the row for 25GBASE-BR10, 25GBASE-BR20, 25GBASE-BR40 to be after the row for 25GBASE-LR, 25GBASE-ER.
Move the row for 50GBASE-BR10, 50GBASE-BR20, 50GBASE-BR40 to be after the row for 50GBASE-FR, 50GBASE-LR, 50GBASE-ER inserted by IEEE Std 802.3cd-2018 and changed by IEEE Std 802.3cn-2019.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.7.2** *P* **28** *L* **19** # 17

Anslow, Pete Independent

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

The order of entries in Table 45-10 above 10G is by speed and then reach for the first PHY type in each row.

SuggestedRemedy

Move the row for 25GBASE-BR10, 25GBASE-BR20, 25GBASE-BR40 to be after the row for 25GBASE-LR, 25GBASE-ER.
Move the row for 50GBASE-BR10, 50GBASE-BR20, 50GBASE-BR40 to be after the row for 50GBASE-FR, 50GBASE-LR, 50GBASE-ER inserted by IEEE Std 802.3cd-2018 and changed by IEEE Std 802.3cn-2019.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.8.1** *P* **29** *L* **22** # 1

Anslow, Pete Independent

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

The order of entries in Table 45-12 above 10G is by speed and then reach for the first PHY type in each row.

SuggestedRemedy

Move the row for 25GBASE-BR10, 25GBASE-BR20, and 25GBASE-BR40 to be after the row for 25GBASE-LR and 25GBASE-ER.
Move the row for 50GBASE-BR10, 50GBASE-BR20, and 50GBASE-BR40 to be after the row for 50GBASE-FR, 50GBASE-LR, and 50GBASE-ER inserted by IEEE Std 802.3cd-2018 and changed by IEEE Std 802.3cn-2019.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.27a** *P* **30** *L* **8** # 2

Anslow, Pete Independent

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

The title of Table 45-31a should contain the name of the register as per the rest of Clause 45 registers.

SuggestedRemedy

Change the title of Table 45-31a from "10G and 25G PMA/PMD extended ability 1 register bit definitions" to "BiDi PMA/PMD extended ability 1 register bit definitions"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.27a** *P* **30** *L* **8** # 3

Anslow, Pete Independent

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

Table 45-31a is missing a reserved row

SuggestedRemedy

Add a reserved row for bits 1.34.15:12

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.27b** *P* **32** *L* **18** # 4

Anslow, Pete Independent

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

The title of Table 45-31b should contain the name of the register as per the rest of Clause 45 registers.

SuggestedRemedy

Change the title of Table 45-31b from "50G PMA/PMD extended ability 1 register bit definitions" to "BiDi PMA/PMD extended ability 2 register bit definitions"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **78** *SC* **78.1.4** *P* **39** *L* **24** # 5

Anslow, Pete Independent

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

The order of rows in Table 78-1 was defined by Comment #65 against P802.3cj D2.0:
https://www.ieee802.org/3/cj/comments/P8023-D2p0-Comments-Final-byID.pdf#page=14
The 25G PHYs are in line with this order, but the 50G ones are not.

SuggestedRemedy

Change the order of the 50G PHYs to:
...
50GBASE-FR
50GBASE-BR10
50GBASE-LR
50GBASE-BR20
50GBASE-BR40
50GBASE-ER
…

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **108** *SC* **108** *P* **40** *L* **7** # 51

Marris, Arthur Cadence Design Systems

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

The proposed changes to Clause 108 are not adequate to describe 10GBASE-R operation

SuggestedRemedy

The proposed changes to Clause 108 are not sufficient to support 10G operation. At least make the following changes to Clause 108.
Change Clause Title to: “Reed-Solomon Forward Error Correction (RS-FEC) sublayer for 10GBASE-R and 25GBASE-R PHYs”
Change first sentence of 108.1.1 to: “This clause specifies a Reed-Solomon Forward Error Correction (RS-FEC) sublayer for 10GBASE-R and 25GBASE-R PHYs.”
Change first sentence of 108.2 to: “This subclause specifies the services provided by the RS-FEC sublayer.”
Change first sentence of second paragraph of 108.2 to: “The FEC service interface is provided to allow the 25GBASE-R PCS to transfer information to and from the 25GBASE-R RS-FEC.”
Insert a new third paragraph to 108.2: “When used with a 10GBASE-R PHY the serial PMA defined in Clause 51 is the client of the FEC service interface.”
In 108.2 change: “The PCS (or PMA) continuously sends a bit stream to the 25GBASE-R RS-FEC using the FEC:IS_UNITDATA.request(tx_bit) primitive, at a nominal signaling rate of 25.78125 GBd.
The 25GBASE-R RS-FEC continuously sends a bit stream to the PCS (or PMA) using the FEC:IS_UNITDATA.indication(rx_bit) primitive, at a nominal signaling rate of 25.78125 GBd. The actual signaling rate is equal to the underlying PMD signaling rate.”
To: “The PCS (or PMA) continuously sends a bit stream to the RS-FEC using the FEC:IS_UNITDATA.request(tx_bit) primitive, at a nominal signaling rate of 25.78125 GBd for 25GBASE-R and at 10.3125 GBd for 20GBASE-R.
The RS-FEC continuously sends a bit stream to the PCS (or PMA) using the FEC:IS_UNITDATA.indication(rx_bit) primitive, at a nominal signaling rate of 25.78125 GBd for 25GBASE-R and at 10.3125 GBd for 20GBASE-R. The actual signaling rate is equal to the underlying PMD signaling rate.”

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Need group discussion

Cl **157** *SC* **157.1.4** *P* **41** *L* **51** # 27

Dawe, Piers Nvidia

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

In "Implementations conforming to one or more PHY types mustshall meet the requirements of the corresponding clauses.", there's a "shall" but there's no PICS for it, which won't do.
Compare 56.1.3 Physical Layer signaling systems: "A complete implementation conforming to one or more nomenclatures meets the requirements of the corresponding clauses."

SuggestedRemedy

Change to "Implementations conforming to one or more PHY types meet the requirements of the corresponding
clauses."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **157** *SC* **157.2.4** *P* **44** *L* **1** # 52

Marris, Arthur Cadence Design Systems

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

The Clause 51 PMA 16-bit service interface is incompatable with the serial client interface of the Clause 108 RS-FEC. Therefore the clause correlation in Table 157-3 does not work for 10GBASE-BR20 . Same issue in Table 158-1

SuggestedRemedy

Define a new PMA for 10GBASE-BR20 or modify clause 109 to support 10GBASE-R.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

A presentation will be submitted with detailed proposal.

Cl **157** *SC* **157.1.4** *P* **44** *L* **12** # 6

Anslow, Pete Independent

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

In Table 157-3, Table 157-4, and Table 157-5, the column headings for the PMDs do not follow the established practice in 802.3.

SuggestedRemedy

In Table 157-3:
Delete "10 Gb/s PMD"
Change "10 km" to "10GBASE-BR10"
Change "20 km" to "10GBASE-BR20"
Change "40 km" to "10GBASE-BR40"
In Table 157-4:
Delete "25 Gb/s PMD"
Change "10 km" to "25GBASE-BR10"
Change "20 km" to "25GBASE-BR20"
Change "40 km" to "25GBASE-BR40"
In Table 157-5:
Delete "50 Gb/s PMD"
Change "10 km" to "50GBASE-BR10"
Change "20 km" to "50GBASE-BR20"
Change "40 km" to "50GBASE-BR40"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **157** *SC* **157.2.1** *P* **45** *L* **37** # 20

Dawe, Piers Nvidia

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

the specific RS and xMII specified for each ... is

SuggestedRemedy

Make it match 157.2.2, 157.2.3, 157.2.4 and 157.2.5:
the specific RS and xMII for each ... are

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **157** *SC* **157.6** *P* **47** *L* **15** # 30

Dawe, Piers Nvidia

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

ONU Silent start

SuggestedRemedy

ONU silent start

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.1** *P* **48** *L* **16** # 23

Dawe, Piers Nvidia

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

Expanding on D2.0 comment 266: Clause 45 is one optional way of doing management; other ways are permissible. That's why all recent clauses say "and optionally with the management functions that may be accessible through the management interface defined in Clause 45, *** or equivalent ***.

SuggestedRemedy

Change "defined in Clause 45" to "defined in Clause 45, or equivalent", consistent with 159 and 160.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.1** *P* **48** *L* **32** # 25

Dawe, Piers Nvidia

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

Table 159-1 has an important note excluding FEC bypass. Presumably this applies here, too.

SuggestedRemedy

Insert note: "The option to bypass the Clause 108 RS-FEC correction function is not supported."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert note b to Column"10GBASE-BR20", Row"108—RS-FEC": "The option to bypass the Clause 108 RS-FEC correction function is not supported."

Cl **158** *SC* **158.1** *P* **48** *L* **33** # 24

Dawe, Piers Nvidia

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

As this note "Clause108 describes an FEC for 25GBASE-R PHYs, but the same scheme can be applied to 10GBASE-BRx PHYs" applies to only one PMD now, and it's no longer optional, the wording can be tightened up.

SuggestedRemedy

Change the format of the cross-reference to 108 so that "Clause 108" (with a space) is a hot link. Change sentence to:
Clause 108 describes an FEC for 25GBASE-R PHYs, but the same scheme is used in 10GBASE-BR20 PHYs."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.1.1** *P* **48** *L* **46** # 57

Stassar, Peter Huawei

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

Cross reference to be to "Clause 108" as a whole and not only to "108". Also in Line 50, same page.

SuggestedRemedy

Modify cross reference from "108" to "Clause 108", twice.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.1.1** *P* **49** *L* **1** # 26

Dawe, Piers Nvidia

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

Blank line

SuggestedRemedy

Remove

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.1** *P* **49** *L* **14** # 29

Dawe, Piers Nvidia

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

The RS-FEC is required to be present or absent depending on PHY type.

SuggestedRemedy

Add the same note as in figs 56-1a and 157-1: "NOTE 1--CONDITIONAL BASED ON PHY TYPE"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.6.1** *P* **53** *L* # 36

Dawe, Piers Nvidia

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

Do you want to make the average launch power of OFF transmitter lower, like 10GBASE-PR? Then, it would help to set the signal detect lower limit in Table 158-4 lower than -30 dBm for 10GBASE-BR20 because that's not far below its sensitivity

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Reuse 10GBASE-R specs here

Cl **158** *SC* **158.6** *P* **53** *L* **10** # 28

Dawe, Piers Nvidia

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

Table 159-6 has an important note excluding FEC bypass. Presumably this applies here, too.

SuggestedRemedy

Add note for 10GBASE-BR20 "The RS-FEC correction function may not be bypassed for any operating distance."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The reference table should be Table 159-5. Add the proposed note to Table 158-5, Cell "10GBASE-BR20".

Cl **158** *SC* **158.1** *P* **53** *L* **10** # 48

Maki, Jeffery Juniper Networks

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

Earlier drafts clearly stated that that two PHYs for each speed and reach of Ethernet were being defined. An "up" PHY with -U Tx and -U Rx specs and a "down" PHY with -D Tx and -D Rx specs. Two kinds of modules would be built in the industry: (1) a -U Tx and a -D Rx and (2) -D Tx and -U Rx. Now the draft has changed approaches completely by defining implicitly two kinds of PMDs, a "up" PMD and a "down" PMD as indicated by the swapping of the -U Rx and -D Rx wavelengths specs. This is a large change only partially addressed in the draft. In particular, there is no clear definition of an "up" PMD and a "down" PMD as one finds for example in Cluase 58.1 for 100BASE-BX10, "100BASE-BX10-D PMD at one end and a 100BASE-BX10-U PMD at the other."

SuggestedRemedy

Updated text:
Within this clause these PMDs are jointly referred to by the term 10GBASE-BRx-D PMD at one end and a 10GBASE-BRx-U PMD at the other.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment#19

Cl **158** *SC* **158.6.1** *P* **53** *L* **29** # 35

Dawe, Piers Nvidia

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

Side Mode Suppression Ratio
Optical Return Loss Tolerance
Transmitter Reflectance

SuggestedRemedy

Side mode suppression ratio
Optical return loss tolerance
Transmitter reflectance
But Optical Modulation Amplitude should keep its capitals
Check other tables (e.g. Receiver Reflectance in Table 158-7) and clauses 159, 160

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Check out the upper/lower-case convention in published Amemdments, update tables in Clauses 158-160

Cl **158** *SC* **158.6.1** *P* **53** *L* **49** # 33

Dawe, Piers Nvidia

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

One of the notes has become separated, on the following page

SuggestedRemedy

Make the table full width

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.6.1** *P* **53** *L* **53** # 34

Dawe, Piers Nvidia

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

the Optical return loss tolerance

SuggestedRemedy

the optical return loss tolerance

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.6.2** *P* **54** *L* # 59

Stassar, Peter Huawei

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

In accordance with the results of comment resolution on D2.0 the parameter "Receive electrical 3 dB upper cutoff frequency (max)" has been deleted, but this has not been indicated. Should have been visible for the reviewer in strike-through.

SuggestedRemedy

For D2.2 show deletion of "Receive electrical 3 dB upper cutoff frequency (max)" as strike-through

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

D2.1 did delete the entire row in the table. But due to FrameMaker settings, this was not shown as strike-through changes in the markup verison.

Cl **158** *SC* **158.6.2** *P* **54** *L* **30** # 37

Dawe, Piers Nvidia

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

10GBASE-BR20 uses FEC so VECP, which was chosen for a no-FEC situation, may not work as a way of calibrating the SRS for this PMD.

SuggestedRemedy

Consider using SEC (see 95.8.8.2 and 95.8.5, but choose a limit appropriate for this PMD)

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Propose to maintain the optical measurement test for 10GBASE-R. Tests for 10GBASE-R are more conservative than SEC, the link should be able to close.

Cl **158** *SC* **158.6.2** *P* **54** *L* **33** # 38

Dawe, Piers Nvidia

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

Footnote a contradicts the "Maximum receive power (for damage)" row. Also, the style in recent optical clauses is a little different.

SuggestedRemedy

Remove note a Change the row:
Maximum receive power (for damage)
below average receive power (min), to
Damage threshold
above average receive power (max)
Apply new note a to this row:
The receiver shall be able to tolerate, without damage, continuous exposure to an optical input signal having this average power level. The receiver does not have to operate correctly at this input power.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Need group discussion

Cl **158** *SC* **158.8** *P* **55** *L* # 68

Stassar, Peter Huawei

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

The title for this subclause is "Optical measurement requirements" whereas it is more common to call it "Definition of optical parameters and measurement methods" in a similar way as for 159.7 and 160.7

SuggestedRemedy

Rename title of subclause 158.8 to "Definition of optical parameters and measurement methods"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.8** *P* **55** *L* # 69

Stassar, Peter Huawei

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

In subclause 158.8 references to the various parameter requirements are missing. Should be added and be similar to 159.7 and 160.7

SuggestedRemedy

In 158.8 add references to requirements tables for various parameters

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **158** *SC* **158.6.3** *P* **55** *L* **17** # 60

Stassar, Peter Huawei

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

Note d mentions suggests that the channel insertion loss has a relation to TDP: A transmitter wavelength of 1260 nm with a TDP of 3 dB is used to calculate channel insertion loss, and allocation for penalties in this table. This is wrong. TDP is a transmitter parameter and not channel insertion loss. This note applies to the channel insertion loss and not the allocation of penalties.

SuggestedRemedy

Change note d to: A transmitter wavelength of 1260 nm is assumed to calculate channel insertion loss. Alternatively the whole note can be deleted.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove note d

Cl **158** *SC* **158.8** *P* **55** *L* **26** # 31

Dawe, Piers Nvidia

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

"Optical measurement requirements" this was copied from Clause 38 to 52 then 58-60 but later it was decided that this was incorrect; 802.3 is not a test spec, the measurements are not required, only the compliance is. So Clause 68 and later optical PMD clauses use different wording.

SuggestedRemedy

Change to:
Definition of optical parameters and measurement methods

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This makes the subclause title consistent to those in Clauses 159 and 160

Cl **158** *SC* **158.8.1.1** *P* **55** *L* **40** # 32

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **X** *refer-copy*

Way too much old material copied in. For example, unless you are defining new test patterns (bad idea), you should reference the existing ones. Also, there are multiple technical problems with this very old material that would have to be fixed if the material is kept.

SuggestedRemedy

Remove most of the copied-in material and refer back to other clauses as needed.

Proposed Response *Response Status* **W**

The referring back method was used in TF review stage, then materials were copied back per WG ballot comment resolution. Need group discussion and decision on this.

Group Comments#32, 43, 44

Cl **158** *SC* **158.8.2** *P* **57** *L* **32** # 40

Dawe, Piers Nvidia

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

802.3 is not a test spec. Cannot say "shall be measured". There are no spectral width specs in this draft. It seems that while MMF signals are defined by "center wavelength", SMF signals are defined by "wavelength".
See 121.8.2, 139.7.2 and 159.7.2 for examples.

SuggestedRemedy

Change subclause title from "Center wavelength, spectral width, and side mode suppression ratio (SMSR) measurements" to "Wavelength and side mode suppression ratio (SMSR)".
Change content from:
The center wavelength, spectral width (RMS), and SMSR shall be measured using an optical spectrum analyzer per the centroidal wavelength, RMS spectral width, and SMSR definitions in IEC 61280-1-3 under modulated conditions using an appropriate PRBS or a valid 10GBASE-BRx signal, or another representative test pattern. to:
The wavelength and SMSR shall be within the range given in Table 158-6 if measured per IEC 61280-1-3. The transmitter is modulated using the test pattern defined in Table 158-11.
Modify Table 158-11 so that it has rows for Wavelength and Side mode suppression ratio, with pattern 1, 3 or or valid 10GBASE-R signal (you can allow square wave for Wavelength for consistency with other recent clauses). Remove "spectral width" from the table.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Need group discussion

Cl **158** *SC* **158.8.3** *P* **57** *L* **40** # 42

Dawe, Piers Nvidia

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

Average optical power measurements
Average optical power shall be measured using the methods specified in TIA/EIA-455-95. This measurement may be made with the node transmitting test pattern 1 or 3 or a valid 10GBASE-BRx signal, or another representative test pattern.

SuggestedRemedy

Average optical power
The average optical power shall be within the limits given in Table 158-6 if measured using the methods given in IEC 61280-1-1.
In Table 158-11, for Average optical power, change "1 or 3" to " 1, 3 or valid 10GBASE-R signal".
Make similar changes for 158.8.4 and and other optical parameter definition subclauses

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Need group discussion

Cl **158** *SC* **158.8.5** *P* **58** *L* **1** # 43

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **X** *refer-copy*

Don't copy all this stuff - follow the way 159.7.4 does it.

SuggestedRemedy

Similarly for the following subclauses.

Proposed Response *Response Status* **W**

Group Comments#32, 43, 44

Cl **158** *SC* **158.8.6.1** *P* **60** *L* **1** # 7

Anslow, Pete Independent

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

Figure 158-5 is a bit map and should be drawn in FrameMaker so that it is maintainable.

SuggestedRemedy

Re-draw Figure 52-7 in FrameMaker

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.8.11** *P* **70** *L* **21** # 41

Dawe, Piers Nvidia

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

There is no 3 dB electrical upper cutoff frequency spec in this draft

SuggestedRemedy

Remove this subclause or add such a spec.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Need group discussion

Cl **158** *SC* **158.8.7** *P* **72** *L* **12** # 39

Dawe, Piers Nvidia

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

158.8.2 isn't a clause

SuggestedRemedy

Change the cross-reference format so that "Clause" does not appear. Similarly in 160.8.7.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.10** *P* **73** *L* # 65

Stassar, Peter Huawei

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

The readability of Tables 158-13 (and 159-12) if a format similar to Table 88-14 is used.

SuggestedRemedy

Reformat Table 158-13 (and 159-12) to a format similar to Table 88-14. A detailed proposal will be made in a presentation to the relevant TF meeting

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

A presentation will be submitted with detailed proposal.

Cl **158** *SC* **158.10** *P* **73** *L* **12** # 64

Stassar, Peter Huawei

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

The maximum dispersion level for the 1270 nm part is not -19/-38/-75 ps/nm but zero in all 3 cases. This applies for zero km distances

SuggestedRemedy

In Table 158-13 modify the maximum chromatic dispersion from -19/-38/-75 to 0/0/0 ps/nm

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **158** *SC* **158.11.1** *P* **73** *L* **34** # 8

Anslow, Pete Independent

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

Wrong font size

SuggestedRemedy

Re-apply paragraph tag T,Text

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **159** *SC* **159.1** *P* **86** *L* **10** # 49

Maki, Jeffery Juniper Networks

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

Earlier drafts clearly stated that that two PHYs for each speed and reach of Ethernet were being defined. An "up" PHY with -U Tx and -U Rx specs and a "down" PHY with -D Tx and -D Rx specs. Two kinds of modules would be built in the industry: (1) a -U Tx and a -D Rx and (2) -D Tx and -U Rx. Now the draft has changed approaches completely by defining implicitly two kinds of PMDs, a "up" PMD and a "down" PMD as indicated by the swapping of the -U Rx and -D Rx wavelengths specs. This is a large change only partially addressed in the draft. In particular, there is no clear definition of an "up" PMD and a "down" PMD as one finds for example in Cluase 58.1 for 100BASE-BX10, "100BASE-BX10-D PMD at one end and a 100BASE-BX10-U PMD at the other."

SuggestedRemedy

Updated text:
Within this clause these PMDs are jointly referred to by the term 25GBASE-BRx-D PMD at one end and a 25GBASE-BRx-U PMD at the other.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment#19

Cl **159** *SC* **159.7.1** *P* **88** *L* # 70

Stassar, Peter Huawei

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

Reference is made to test patterns in clause 95, whereas it should be to Table 159-9

SuggestedRemedy

Modify reference to test patterns from clause 95 to Table 159-9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **159** *SC* **159.6.3** *P* **88** *L* **20** # 61

Stassar, Peter Huawei

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

In note b the allocation of 5 dB is specifically called out, whereas in note a reference is made to the later subclause on

SuggestedRemedy

Change note b to refer to the relevant part in subclause 159.9 and/or 159.10

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **159** *SC* **159.9** *P* **92** *L* # 62

Stassar, Peter Huawei

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

References are made to Clause 88.10 and in 159.10 to Clause 88.11, making the reading a bit complicated. Also it is not precisely clear which exceptions apply. It would be more straightforward reading if subclauses 159.9 and 159.10 are rewritten with full local content as in 158.10 and 158.11

SuggestedRemedy

Rewrite subclauses 159.9 and 159.10 with its own local content in a similar way as 158.10 and 158.11

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **159** *SC* **159.9** *P* **94** *L* # 66

Stassar, Peter Huawei

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

The maximum dispersion level for the first 3 columns is not -19/-6/-11 ps/nm but 0/0/0 ps/nm. This applies for zero km distances. Furthermore in some cases the rounding of the dispersion has been downwards instead of upwards, e.g. 39.5 to 39 instead of 40.

SuggestedRemedy

In Table 159-12 modify the chromatic dispersion from -19/-6/-11 to 0/0/0 ps/nm. Also modify 39 to either 39.5 or 40 ps/nm. This will also be taken into account in the detailed proposal that will be put into a presentation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **160** *SC* **160.3** *P* **103** *L* # 58

Stassar, Peter Huawei

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

Skew constraints have been introduced in a separate subclause 160.3.1 while not for Delay constraints.

SuggestedRemedy

Introduce subclause 160.3.1 for Delay constraints and 160.3.2 for Skew constraints

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **160** *SC* **160.6** *P* **108** *L* # 67

Stassar, Peter Huawei

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

This comment is a repeat of comment #185 to D2.0, proposing to align the PAM4 specification methodology with the one used in P802.3cu D2.2.

SuggestedRemedy

A detailed presentation will be submitted with specific proposals for modification

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

A presentation will be submitted with detailed proposal.

Cl **160** *SC* **160.1** *P* **108** *L* **9** # 50

Maki, Jeffery Juniper Networks

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

Earlier drafts clearly stated that that two PHYs for each speed and reach of Ethernet were being defined. An "up" PHY with -U Tx and -U Rx specs and a "down" PHY with -D Tx and -D Rx specs. Two kinds of modules would be built in the industry: (1) a -U Tx and a -D Rx and (2) -D Tx and -U Rx. Now the draft has changed approaches completely by defining implicitly two kinds of PMDs, a "up" PMD and a "down" PMD as indicated by the swapping of the -U Rx and -D Rx wavelengths specs. This is a large change only partially addressed in the draft. In particular, there is no clear definition of an "up" PMD and a "down" PMD as one finds for example in Cluase 58.1 for 100BASE-BX10, "100BASE-BX10-D PMD at one end and a 100BASE-BX10-U PMD at the other."

SuggestedRemedy

Updated text:
Within this clause these PMDs are jointly referred to by the term 50GBASE-BRx-D PMD at one end and a 50GBASE-BRx-U PMD at the other.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment#19

Cl **160** *SC* **160.6.3** *P* **110** *L* **11** # 53

Wang, Ruoxu Huawei

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

The "Power budget (for maximum TDECQ)" for 50GBASE-BR20 is not aligned with Tx/Rx spec in 160.6.1 and 160.6.2. The Power budget is calculated as "Channel insertion loss+ Allocation for penalties", which equals to 3.7 dB + 15 dB=18.7 dB. Please see the related comment on 50GBASE-BR20 Allocation for penalties.

SuggestedRemedy

In Table 160-8, set "Power budget (for maximum TDECQ)" from 18.8dB to18.7dB for 50GBASE-BR20.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **160** *SC* **160.6.3** *P* **110** *L* **11** # 54

Wang, Ruoxu Huawei

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

The "Power budget (for maximum TDECQ)" for 50GBASE-BR40 is not aligned with Tx/Rx spec in Table 160-6 and Table 160-7. The Power budget is calculated as "Channel insertion loss+ Allocation for penalties", which equals to 3.7 dB + 18 dB=21.7 dB. Please see the related comment on 50GBASE-BR40 Allocation for penalties.

SuggestedRemedy

In Table 160-8, set "Power budget (for maximum TDECQ)" from 21.8dB to21.7dB for 50GBASE-BR40.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **160** *SC* **160.6.3** *P* **110** *L* **17** # 56

Wang, Ruoxu Huawei

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

The "Allocation for penalties" for 50GBASE-BR40 3.8dB is not aligned with Tx/Rx spec in Table 160-6 and Table 160-7. As other PAM4 based IEEE 802.3 standard, the penalty is calculated as "Allocation for penalties= TDECQmax+ (TxOMAouter min-Rx sensitivity-Channel insertion loss)", which equals to 3.2+(3.4-(-15.1)-18)=3.7dB. 3.7dB is also aligned with 802.3cn 50GBASE-ER.

SuggestedRemedy

In Table 160-8, set Allocation for penalties from 3.8dB to 3.7dB for 50GBASE-BR40.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **160** *SC* **160.6.3** *P* **110** *L* **17** # 55

Wang, Ruoxu Huawei

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

The "Allocation for penalties" for 50GBASE-BR20 3.8dB is not aligned with Tx/Rx spec in 160.6.1 and 160.6.2. As other PAM4 based IEEE 802.3 standard, the penalty is calculated as "Allocation for penalties= TDECQmax+ (TxOMAouter min-Rx sensitivity-Channel insertion loss)", which equals to 3.2+(0.4-(-15.1)-15)=3.7dB.

SuggestedRemedy

In Table 160-8, set Allocation for penalties from 3.8dB to 3.7dB for 50GBASE-BR20.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **160** *SC* **160.7.4** *P* **111** *L* **37** # 44

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **X** *refer-copy*

Too much repetition

SuggestedRemedy

Refer to other clauses, for several subclauses here

Proposed Response *Response Status* **W**

Group Comments#32, 43, 44

Cl **160** *SC* **160.7.9** *P* **115** *L* **30** # 9

Anslow, Pete Independent

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

A line for 50GBASE-FR should not be present in Figure 160-6

SuggestedRemedy

Replace Figure 160-6 with a figure that does not have a line for 50GBASE-FR [I can provide such a figure if you need it]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **160** *SC* **160.9** *P* **119** *L* # 63

Stassar, Peter Huawei

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

It would make the readability significantly better if 160.9 would have its own local copy of Table 159-12

SuggestedRemedy

Create local copy of Table 159-12 in clause 160.9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **108** *SC* **108.4** *P* **592** *L* # 21

Dawe, Piers Nvidia

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

108.4 says that the maximum delay contributed by the 25GBASE-R RS-FEC sublayer shall be no more than 24576 bit times (48 pause_quanta or 983.04 ns).

SuggestedRemedy

Explain that when used for 10GBASE-BR20, that's 2457.6 ns.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Keep the 48 pause_quanta or 983.04 ns value, apply it to the 10G rate, the bit time @10G is 9803.4 = 9803 bits

Change max bit time in the new row of Table 44-2 as 9803

Cl **108** *SC* **108.5.3.2** *P* **597** *L* # 18

Dawe, Piers Nvidia

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

If FEC_bypass_indication_enable is to be allowed, the time-out period, 60 ms to 75 ms for 25 Gb/s, needs to be extended for 10GBASE-BR20

SuggestedRemedy

Change "a period of 60 ms to 75 ms" to "a period of 150 ms to 187.5 ms for 10GBASE-BR20, and 60 ms to 75 ms for all other PHY types"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Use comment resolution of #22

Cl **108** *SC* **108.5.3.2** *P* **597** *L* # 22

Dawe, Piers Nvidia

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

108.5.3.2 says: "option to perform error detection without error correction to reduce the delay contributed by the 25GBASE-R RS-FEC sublayer. ... This option shall not be used when the 25GBASE-R RS-FEC sublayer is used to form part of a 25GBASE-SR, 25GBASE-LR, or 25GBASE-ER PHY.

SuggestedRemedy

Extend the list of PHY types that must not bypass error correction.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "This option shall not be used when the 25GBASE-R RS-FEC sublayer is used to form part of a 25GBASE-SR, 25GBASE-LR, or 25GBASE-ER PHY."
into
"This option shall not be used when the 25GBASE-R RS-FEC sublayer is used to form part of a 10GBASE-BR20, 25GBASE-SR, 25GBASE-LR, or 25GBASE-ER PHY."