Cl **151**   *SC* **151.8.5**   *P* **6126**   *L* **29**   # 1

Murty, Ramana   Broadcom Inc.

Comment Type **T**   *Comment Status* **X**

The bandwidth of the Bessel-Thomson response filter should be half the baud rate, 26.5625 GHz, not 25.5625 GHz.

SuggestedRemedy

Fix the typo and note it's the 3 dB bandwidth. Change to "The normalized noise power density spectrum, N(f) in Equation (121-9), is equivalent to white noise filtered by a fourth-order Bessel-Thomson response filter with a 3 dB bandwidth of 26.5625 GHz."

Proposed Response   *Response Status* **W**

[Editor's note: Comment type changed from "TR" to "T" because it was submitted with an "APPROVE WITH COMMENTS" ballot.]

Cl **30**   *SC* **30.5.1.1.16**   *P* **455**   *L* **36**   # 2

Marris, Arthur   Cadence Design Systems

Comment Type **E**   *Comment Status* **X**

The final paragraph of 30.5.1.1.16 is a bit cumbersome and could be simplified.

SuggestedRemedy

Change text to: "If a Clause 45 MDIO Interface is present, then this attribute maps to the appropriate enable bit in the appropriate FEC control register based upon the PHY type and the FEC operating mode (see 45.2.10.3, 45.2.1.108 and 45.2.1.116).;"

Note this proposed remedy differs from the proposed remedy in a comment against the last draft that was rejected in the bucket

Proposed Response   *Response Status* **O**

Cl **33**   *SC* **33.4.9.1**   *P* **1370**   *L* **12**   # 3

Jones, Chad   Cisco

Comment Type **E**   *Comment Status* **X**

mispelled "telecommuications", forgot the 'n'

SuggestedRemedy

replace with telecommunications

Proposed Response   *Response Status* **O**

Cl **104**   *SC* **104.8.1**   *P* **4425**   *L* **7**   # 4

Jones, Chad   Cisco

Comment Type **E**   *Comment Status* **X**

Not sure why the date is highlighted in red. I'm sure it's because the date is incomplete, saying 20XX, but this same change was made in 33.7.1 and 145.6.1 and the date wasn't highlighted iin those instances. Only looking for consistency. Either we should highlight the other instances of 20XX or we don't highlight any.

SuggestedRemedy

remove the highlight

Proposed Response   *Response Status* **O**

Cl **104**   *SC* **104.9.4.8**   *P* **4437**   *L* **41**   # 5

Jones, Chad   Cisco

Comment Type **E**   *Comment Status* **X**

again, a red highlighted date. This wasn't done in the Clause 33 or Clause 145 PICS. Looking for consistency (see previous comment from me)

SuggestedRemedy

remove the highlight

Proposed Response   *Response Status* **O**

Cl **FM**   *SC* **FM**   *P* **18**   *L* **11**   # 6

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **X**

I think I am the first and only Robert Grow to vote on 802.3 and its revisions and don't need two listings. I note there is a Law, David and Law, David J., and a Thompson, Geoffrey and Thompson, Geoffrey O. , etc. But Jain, Raj
and Jain, Rajeev are a bit more difficult to conclude are the same person, (let alone those that might ballot with a nickname totally unlike their given name). Though I am a fan of recognizing historical participants and argued in the past for this list (rather than replacing the list with each revision) name variations for the same person do create a challenge.

SuggestedRemedy

You may delete the Grow, Robert entry if you concur that I'm the only Robert Grow to have participated since the early 1980's initial ballot on IEEE 802.3.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

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Cl **24**   *SC* **24.1.4**   *P* **836**   *L* **40**   # 7

Grow, Robert   RMG Consulting

Comment Type   **E**   *Comment Status*   **X**

Device should be lower case.

SuggestedRemedy

Davice -> device.

Proposed Response   *Response Status*   **O**

Cl **45**   *SC* **45.2.4.30**   *P* **2068**   *L* **53**   # 8

Grow, Robert   RMG Consulting

Comment Type   **E**   *Comment Status*   **X**

The merge of the newest amendments highlights a style problem with Clause 45. (Found this using the CMP version, references are to the non-CMP document.) Line 50 capitalizes "Register" while the new text does not capitalize "register" in line 53. A quick scan of other subclauses indicate the inconsistency isn't only with the most recent amendments merged into the document but I would guess existed from the original Clause 45 decades ago.

SuggestedRemedy

If an editor has the time and energy to search and replace "Register" with "register" where appropriate that would increase document consistency. We probably should put something in the 802.3 conventions about this. If "Register" is chosen instead of "register" for such uses, it should probably only be used for reference to a "Register x.y", possibly (???) in a register name, but no capitalization for generic usage of "register". Any 802.3 convention should cover at least these three types of usage if "Register" is chosen.

Proposed Response   *Response Status*   **O**

Cl **FM**   *SC* **FM**   *P* **1**   *L* **36**   # 9

Grow, Robert   RMG Consulting

Comment Type   **E**   *Comment Status*   **X**

My compliments to whoever searched our 7k page document for "must" and made edits appropriate for the deprecation of "must" per IEEE Standards Style Manual, clause 9. That said, I find it amusing that the mandated copyright text on the title page violates IEEE Style in its use of "must".

SuggestedRemedy

No changes to the draft requested as this paragraph is mandated, not to be edited text! Perhaps additional highlight of this inconsistency (including from those on the SASB and our IEEE publication editor) might stimulate development of new copyright text that is consistent with the Style Manual and still satisfactory to IEEE legal.

Proposed Response   *Response Status*   **O**

Cl **FM**   *SC* **FM**   *P* **26**   *L* **38**   # 10

Dawe, Piers   Nvidia

Comment Type   **E**   *Comment Status*   **X**

Physical layers

SuggestedRemedy

Physical Layer specifications

Proposed Response   *Response Status*   **O**

Cl **FM**   *SC* **FM**   *P* **26**   *L* **40**   # 11

Dawe, Piers   Nvidia

Comment Type   **T**   *Comment Status*   **X**

Clause 153 and Clause 154 specify 100 Gb/s operation over DWDM systems.

SuggestedRemedy

Clause 153 and Clause 154 specify 100 Gb/s operation over DWDM channels.
or

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

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Cl **1**	*SC* **1.4.298**	*P* **208**	*L* **27**	# **12**			

Dawe, Piers   Nvidia

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

This says "DWDM channel: The transmission path from a transmitting DWDM PHY (TP2) to a receiving DWDM PHY (TP3)". But it is explicit in 154.5.1 that there is a "patch cord between 2 m and 5 m in length" between the MDI and TP2. This is the same as all optical clauses from 1000BASE-X. So "transmitting DWDM PHY (TP2)" is not correct.

 It is important not to mislead test engineers in a definitions section that should be used by test engineers working on all optical PMD types.

SuggestedRemedy

As the 1.4 definitions should be brief rather than addressing all details, this can be simplified to:
The transmission path from a transmitting DWDM PHY to a receiving DWDM PHY
or
The transmission path from TP2 to a receiving DWDM PHY (TP3) in a DWDM Physical Layer

Proposed Response   *Response Status* **O**

Cl **154**	*SC* **154.1**	*P*	*L*	# **13**			

Dawe, Piers   Nvidia

Comment Type **T**   *Comment Status* **X**

Another comment proposes a fix to the contradiction in 1.4.298 "DWDM channel: The transmission path from a transmitting DWDM PHY (TP2) to a receiving DWDM PHY (TP3)". Clause 154 is inconsistent as to where the ends of the medium, DWDM channel and DWDM black link are. With good optical connectors, this won't make much difference in the context of the expected DWDM channel lengths and losses, but the spec should at least be self-consistent, and it would be preferable to use a definition of (DWDM) "channel" consistent with other optical clauses (but bearing in mind that there are multiple inputs and outputs to the medium in this kind of DWDM).

SuggestedRemedy

The straightforward solution is to do it the same way as all other optical clauses from 1000BASE-X onwards:
The medium or channel both extend between MDIs, TP2 is a 2-5 m patch cord away from the Tx MDI, and;
The patch cord in Figure 154-2, Block diagram for 100GBASE-ZR transmit/receive paths, like that in Figure 151-2, Block diagram for 400GBASE-FR4 and 400GBASE-LR4-6 transmit/receive paths, and so many others, is for testing. It is not the same as the patch cord in e.g. Figure 151-7, Fiber optic cabling model, which shows the usual definition of Fiber optic cabling (channel).   Note that these figures are called "Block diagram for ... transmit/receive paths", and there are other figures to show the channel.

In Figure 154-2, extend the dashed box "DWDM channel" so that it goes from MDI to MDI (or remove the words "DWDM channel"). The patch cord to TP2 can be left inside the channel, as is traditional in these block diagrams. The placement of TP3s and the boundaries of the DWDM black link could be refined in figures 154-3, DWDM black link example configuration for specifying n DWDM channels, and 154A-1 and 2, DWDM black link examples.

Alternatively, 154 can make a clear distinction between the boundaries of the medium or "DWDM black link medium" (the MDI, the clue is in the name), and the boundaries of the DWDM channel and DWDM black link (TP2, TP3). Then, statements such as these would need to be refined:

154.1 Overview
This clause specifies ... together with the associated medium, which is a single-mode fiber-based dense wavelength division multiplexing (DWDM) channel ...
   could change to
This clause specifies the 100GBASE-ZR PMD together with the associated single-mode fiber-based dense wavelength division multiplexing (DWDM) channel ...
   and
154.6 DWDM channel over a DWDM black link
... The medium associated with the 100GBASE-ZR PMD is also referred to as a DWDM channel.

This subclause provides details of the medium associated with the 100GBASE-ZR PMD,

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TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
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over which the PHY operates at a single optical frequency (often also referred to by its associated wavelength) on a defined frequency grid. The medium associated with the 100GBASE-ZR PMD is also referred to as a DWDM channel.
   to
This subclause provides details of the DWDM channel associated with the 100GBASE-ZR PMD, over which the PHY operates at a single optical frequency (often also referred to by its associated wavelength) on a defined frequency grid.

Proposed Response   *Response Status* **O**

Cl **136**   *SC* **136.14.4.1**   *P* **5362**   *L* **32**   # 14

Dawe, Piers   Nvidia

Comment Type   **T**   *Comment Status* **X**

According to 136.8.11.7.1, the ability to can enter the QUIET state is optional, so a mandatory PICS is confusing.

SuggestedRemedy

As this is adding a new feature to an existing spec, add a PICS option to 136.14.3 or make this one optional. In 2.136.8.2 PMD transmit function, add a NOTE saying that not all PMDs use the QUIET state (see 136.8.11.7.1).

Proposed Response   *Response Status* **O**

Cl **120**   *SC* **120.5.7.2**   *P* **4905**   *L* **22**   # 15

Dawe, Piers   Nvidia

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

In 802.3cd, this said: For PMA lanes connected to the PMD service interface of a *200GBASE-CR4 or 200GBASE-KR4* PMD, the PMA shall / may provide 1/(1+D) mod 4 precoding /decoding capability. So I knew which the PMDs were. Now, it says "If the PMA is connected to the service interface of a PMD that uses the PMD control function (136.8.11)". 136.8.11 itself is short and does not provide that information. Its subclauses are very long, and I did not find the information there. 135.5.7.2 has the same problem.

SuggestedRemedy

Refer to a statement of which PMDs uses the PMD control function (which I did not find).

Proposed Response   *Response Status* **O**

Cl **158**   *SC* **158.8.1.2**   *P* **6641**   *L* **44**   # 16

Dawe, Piers   Nvidia

Comment Type   **T**   *Comment Status* **X**   *LATE*

Four to eleven ones then zeros at a signalling rate of 10.3125 GBd gives fundamental frequencies between 468.75 MHz (slightly different to Clause 52 because here there is no WAN PHY signalling rate) and 1289.0625 MHz.

SuggestedRemedy

Change:
These patterns have fundamental frequencies at approximately 1289 MHz.
   to:
These patterns have fundamental frequencies between approximately 469 MHz and 1289 MHz.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

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Cl **159**   *SC* **159.7.4**   *P* **6250**   *L* **53**   # 17

Dawe, Piers   Nvidia

Comment Type   **T**   *Comment Status*   **X**   *LATE*

In P802.3cp drafts until late on, OMA was defined as for other 25G/lane optical PMDs, but in the process of changing the wording style, it regressed to being defined as for 10G single-lane PMDs (52.9.1.2, square wave with runs of 4 to 11 UI), as in this draft. This is an unnecessary difference between 25GBASE-BR and the other 25GBASE-R optical PMDs.

Compare Clause 95 for 100GBASE-SR4:
Table 95-9--Test patterns
Square wave (8 ones, 8 zeros)
95.8.4 Optical Modulation Amplitude (OMA)
OMA shall be within the limits given in Table 95-6 if measured as defined in 52.9.5 for measurement with a square wave (8 ones, 8 zeros) test pattern or as defined in 68.6.2 (from the variable MeasuredOMA in 68.6.6.2) for measurement with a PRBS9 test pattern, with the exception that each optical lane is tested individually. See 95.8.1 for test pattern information.

Clauses 112 for 25GBASE-SR and 114 for 25GBASE-LR and 25GBASE-ER refers to 95. So does 159.7.1, so we have an inconsistency in this clause (competing definitions of square wave).

The suggested remedy is equivalent to or 112.7.4 and 114.7.4 but keeps the style of wording as it is here.

SuggestedRemedy

Change:
OMA shall meet the requirements in Table 159-6 when measured using the method defined in 52.9.5. See 159.7.1 for test pattern information.
   to:
OMA shall meet the requirements in Table 159-6 when measured using the method defined in 52.9.5 with a square wave (8 ones, 8 zeros) test pattern, or in 68.6.2 (from the variable MeasuredOMA in 68.6.6.2) with a PRBS9 test pattern. See 159.7.1 for test pattern information.

Proposed Response   *Response Status*   **O**

Cl **52**   *SC* **52.9.9.1**   *P* **2411**   *L* **32**   # 18

Dawe, Piers   Nvidia

Comment Type   **E**   *Comment Status*   **X**   *LATE*

"clean clock of Figure 52-11" but the clean clock is in Figure 52-10

SuggestedRemedy

Change to "clean clock of Figure 52-10"

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
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