Cl **126** *SC* **126.7.2.3** *P* **165** *L* **31** # r01-22

Mcclellan, Brett — Marvell Semiconducto

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

line 21 text and equation 126-12 specifies frequencies of 1 to 250MHz for both 2.5 and 5G, but line 31 indicates only 1 to 100MHz for 2.5G

SuggestedRemedy

if the range is 250Mhz for both 2.5 and 5G then delete the frequency ranges on line 31

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delete "at all frequencies from 1 MHz to 250 MHz." on line 21.

Cl **126** *SC* **126.3.2.2.6** *P* **95** *L* **35** # r01-6

Anslow, Peter — Ciena Corporation

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

The heading of Table 126-1 should have a table continuation variable at the end.

SuggestedRemedy

Place the cursor at the end of table title on first page. Then click on the Variables Tab and insert "Table Continuation"
variable. This will add the (continued) on subsequent pages.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.3.6.2.2** *P* **109** *L* **7** # r01-18

Mcclellan, Brett — Marvell Semiconducto

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

typo "tfor"

SuggestedRemedy

change "tfor" to "for"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.3.6.2.2** *P* **110** *L* **21** # r01-19

Mcclellan, Brett — Marvell Semiconducto

Comment Type **GR** *Comment Status* **D** *Editorial*

variable ldpc_frame_done is defined but never used.

SuggestedRemedy

Delete the variable definition

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.7.3.1** *P* **170** *L* **21** # r01-20

Mcclellan, Brett — Marvell Semiconducto

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

Unnecessary commas
"While disturbing signals may contain higher frequencies, the received power, which determines the
power backoff, is dominated by the power below 100 MHz, for 2.5GBASE-T and 5GBASE-T, and
neglecting the frequencies above 100 MHz has no appreciable effect in computing the 2.5GBASE-T or
5GBASE-T power backoff."

SuggestedRemedy

change to:
"While disturbing signals may contain higher frequencies, the received power which determines the
power backoff is dominated by the power below 100 MHz for 2.5GBASE-T and 5GBASE-T. Neglecting the frequencies above 100 MHz has no appreciable effect in computing the 2.5GBASE-T or 5GBASE-T power backoff."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.2.1.3** *P* **31** *L* **27** # r01-1

Anslow, Peter — Ciena Corporation

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

"...following new entry..." should be "...following new entries..."

SuggestedRemedy

Change "...following new entry..." to "...following new entries..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.2.1.2** *P* **31** *L* **16** # r01-2

Anslow, Peter — Ciena Corporation

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

The draft contains several editor's notes saying that the editing instruction needs to be updated once the "publication order of the various amendments becomes settled".
This order is now settled.

SuggestedRemedy

Update the editing instructions accordingly and remove the Editor's notes.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.6.1.1.5** *P* **33** *L* **21** # r01-3

Anslow, Peter — Ciena Corporation

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

Rarther than leaving the insertion position uncertain, make it explicit so that subsequent amendments know what the resulting order is.
Also, there has been an agreement with IEEE staff that "For insert, the only other amendments included in the editing instruction are those that affect the insert point."

SuggestedRemedy

Change the editing instruction to: "Insert the following new entries in "APPROPRIATE SYNTAX" after 1000BASE-T1 (inserted by IEEE Std 802.3bp-201x):"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.6** *P* **38** *L* **15** # r01-5

Anslow, Peter — Ciena Corporation

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

Comment i-83 stated:
"aRO = Read only, LH = Latching high" - Table 45-124 does not contain "LH" designator right now
This is not a correct statement. The rows of the table that have been reproduced in the P802.3bz draft do not contain LH, but a row that has not been included in the draft does. Comment i-83 should have been rejected. Footnote a in Table 45-124 is "RO = Read only, LH = Latching high" and should be shown as such. Choosing not to show the part of the table containing the "LH" is not a reason to change the footnote.

SuggestedRemedy

Reinstate the correct footnote in all tables that were changed due to comment i-83.
This is at least:
Table 45-7 should be "R/W = Read/Write, RO = Read only"
Table 45-124 should be "RO = Read only, LH = Latching high"
Table 45-208 should be "RO = Read only, SC = Self-clearing, LH = Latching high"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.3.2.2.18** *P* **99** *L* **23** # r01-7

Anslow, Peter — Ciena Corporation

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

IEEE uses an en-dash (Ctrl-q Shft-p) for a minus sign.

SuggestedRemedy

Replace all of the hyphens in Table 126-2 (and anywhere else that they are representing minus) with en-dashes.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **31B** *SC* **31B.3.7** *P* **195** *L* **39** # r01-8

Anslow, Peter — Ciena Corporation

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

the set of "max_overrun" equations shown has been added to by the P802.3by draft.

SuggestedRemedy

change the editing instruction to include (as modified by IEEE Std 802.3by-201x) and add the 25G max_overrun equation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **31B** *SC* **31B.4.6** *P* **197** *L* **37** # r01-9

Anslow, Peter Ciena Corporation

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

the PICS entries shown have been modified by the P802.3by draft.

SuggestedRemedy

Add (as modified by IEEE Std 802.3by-201x) to the editing instruction and show the changes made by the P802.3by draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.3.2.2.5** *P* **93** *L* **9** # r01-10

Yu, Ting-Fa

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

This is for PCS Receive bit ordering. It should be rx_coded instead of tx_coded

SuggestedRemedy

change tx_coded to rx_coded

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.3.2.2.16** *P* **98** *L* **41** # r01-11

Yu, Ting-Fa

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

"LPDC" is typing error.

SuggestedRemedy

change "LPDC" to "LDPC"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.3.6.2.2** *P* **110** *L* **20** # r01-15

Zimmerman, George Aquantia, and CommS

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

ldpc_frame_done definition is unused and not needed now that there is ldpc_two_frame_done

SuggestedRemedy

Delete definition of ldpc_frame_done.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.1.3** *P* **36** *L* **27** # r01-4

Anslow, Peter Ciena Corporation

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

In the first sentence of the last paragraph of 45.2.1.1.3, the existing description is in order of increasing binary numbers: 0010, then 0011, then 0100.
However, the added description is in the opposite order.

SuggestedRemedy

Change:
"when set to 0111 the use of a 5G PMA/PMD is selected; when set to 0110 the use of a 2.5G PMA/PMD is selected" to:
"when set to 0110 the use of a 2.5G PMA/PMD is selected; when set to 0111 the use of a 5G PMA/PMD is selected"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.3.2.2.19** *P* **99** *L* **49** # r01-21

Mcclellan, Brett Marvell Semiconducto

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

On page 110 line 24 we have a definition of ldpc_two_frame_done as the point aligned to the inversion on pair A during PMA training.
However on page 99 line 49 and page 124 line 7 the term "even LDPC frame boundary" is used. Is this precise enough to avoid ambiguity?

SuggestedRemedy

page 99 line 49
change "If the sleep signal begins on an even LDPC frame boundary,"
to "If the sleep signal begins on an even LDPC frame boundary aligned to the inversion on pair A during PMA training,"

page 124 line 7
change "The link failure signal is sent for 8 LDPC frames and begins on an even LDPC frame boundary."
to "The link failure signal is sent for 8 LDPC frames and begins on an even LDPC frame boundary aligned to the inversion on pair A during PMA training."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.13.1** *P* **47** *L* **28** # r01-17

Mcclellan, Brett — Marvell Semiconducto

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

"This bit is a reflection of the PCS_status variable defined in 49.2.14.1 for 10/25GBASE-R" 25GBASE-R was added in draft 3.1, however Clause 49 specifies 10GBASE-R not 25GBASE-R.

SuggestedRemedy

Either delete 25GBASE-R or reference the approriate subclause for 25GBASE-R.
Do the same for page 48 line 10, line24 and line 36.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This is existing text added in IEEE P802.3by. IEEE P802.3by incorporates 25G into Clause 49 by reference in Clause 107, including the PCS_status variable.

Cl **126** *SC* **126.3.6.2.2** *P* **93** *L* **50** # r01-16

Zimmerman, George — Aquantia, and CommS

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

Figure 126-7 note is incorrrect: "Note -- Conversion from 4DPAM-16 symbols occurs in the LDPC decoding process. Additionally,
bits 1724 through 1820 were replaced with zeros in rx_4D-PAM16<107> through rx_4D-PAM16<113> during the LDPC encoding process."
Prior to the encoding process, 97 zeros are appended to the aux bit and block of 1625 bits to get 1723 bits. The encoder adds 325 bits.
rx_4D-PAM16 is symbol based and doesn't have bits.

SuggestedRemedy

Replace note
("Note -- Conversion from 4DPAM-16 symbols occurs in the LDPC decoding process. Additionally,
bits 1724 through 1820 were replaced with zeros in rx_4D-PAM16<107 through rx_4D-PAM16<113> during the LDPC encoding process.")
with:
""Note - Conversion from 4DPAM-16 symbols to bits occurs in the LDPC decoder."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.5.3** *P* **57** *L* # r01-12

Kim, Yongbum — Broadcom Corporation

Comment Type **G** *Comment Status* **D** *PICS*

45.5.3 PICS PMA/PMD
Shouldn't there be entry in PMA/PMD section that adds 2.5G and 5G?
If Yes, then please consider accompanying proposed change

SuggestedRemedy

Item Feature Subclause Value/Comment Status Support
2.5G Implementation of 2.5 Gb/s PMA/PMD 45.2.1.4 PMA:O Yes [ ]
No [ ]
5G Implementation of 5 Gb/s PMA/PMD 45.2.1.4 PMA:O Yes [ ]
No [ ]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **126** *SC* **126.5.4.4** *P* **156** *L* **36** # r01-13

Sedarat, Hossein — Aquantia

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

The PSD for injected white noise is specified to be at -127 dBm/Hz for 2.5G. This value is consistent with old ALSNR criterion. With the new ALSNR criterion, this value has to be updated to -125 dBm/Hz. See http://www.ieee802.org/3/bz/public/mar16/Sedarat_3bz_01_0316.pdf for more details

SuggestedRemedy

Change -127 to -125.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **46** *SC* **46.1** *P* **59** *L* **13** # r01-14

Marris, Arthur — Cadence Design Syst

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

For 2.5GBASE-T PHYs the link fault signaling state diagram described in 46.3.4 is only necessary to signal link interruption for fast retrain. Seeing as fast retrain is optional, implementation of the link fault signaling should be optional also.
Making link fault signaling optional would allow speeded up SGMII implementations to be used to connect to 2.5GBASE-T PHYs allowing better inter-operability with existing ASIC implementations.

Also the requirement to implement the link fault state machine adds extra complexity to the ASIC attached to the 2.5GBASE-T PHY.

SuggestedRemedy

Add an extra sentence to the end of this paragraph so it reads:
"The 2.5 Gb/s, 5 Gb/s, and 10 Gb/s Physical Coding Sublayers (PCS) are specified to the XGMII, so if not implemented, a conforming implementation shall behave functionally as if the RS and XGMII were implemented. For 2.5 Gb/s and 5 Gb/s data rates implementation of link fault signaling as described in 46.3.4 is optional."

Bring subclause 46.3.4 into 802.3bz and change the last sentence from:
"The RS shall implement the link fault signaling state diagram (see Figure 46-11)."
To:
"The RS shall implement the link fault signaling state diagram (see Figure 46-11) for data rates of 10 Gb/s and above. For 2.5 Gb/s and 5 Gb/s data rates implementation of the link fault signaling state diagram is optional."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Task force to discuss tradeoffs and consider the potential remedy for 2.5Gb/s only. See presentation
http://www.ieee802.org/3/NGEBASET/public/archadhoc/marris_3bzah_1_0616.pdf

Potential remedy text:
Add an extra sentence to the end of this paragraph so it reads:
"The 2.5 Gb/s, 5 Gb/s, and 10 Gb/s Physical Coding Sublayers (PCS) are specified to the XGMII, so if not implemented, a conforming implementation shall behave functionally as if the RS and XGMII were implemented. For the 2.5 Gb/s data rate, implementation of link fault signaling as described in 46.3.4 is optional."