Cl **30** SC **30.5.1.1.25** P **444** L **48** # 1

Anslow, Pete Ciena

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

In the text added by P802.3bq:
"...this attribute can be derived from to the LP fast retrain count register ."
"from to the" should be "from the"

SuggestedRemedy

Change: "from to the" to: "from the"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.3.15.3** P **235** L **19** # 2

Anslow, Pete Ciena

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

This says ". defined by counter lfer_count in 126.3.7.2 in 2.5GBASE-T and 5GBASE-T, 55.3.6.2 for 10GBASE-T, ." but "lfer_count" is not defined in 55.3.6.2, it is defined in 55.3.7.2

SuggestedRemedy

Change "55.3.6.2" to "55.3.7.2"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.3.15.4** P **235** L **28** # 3

Anslow, Pete Ciena

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

This says ". defined by counter errored_block_count in 126.3.7.2 in 2.5GBASE-T and 5GBASE-T, 55.3.6.2 for 10GBASE-T, ." but "errored_block_count" is not defined in 55.3.6.2, it is defined in 55.3.7.2

SuggestedRemedy

Change "55.3.6.2" to "55.3.7.2"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.7.13.6** P **323** L **15** # 4

Anslow, Pete Ciena

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

This text introduced by 802.3bq says "If the device supports EEE operation for 40GBASE-T as defined in 113.6.1, ." but 113.6.1 is "Support for Auto-Negotiation". 113.1.3.3 seems to contain more information about EEE than 113.6.1 does.

SuggestedRemedy

Change "113.6.1" to "113.1.3.3"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.7.13.15** P **324** L **8** # 5

Anslow, Pete Ciena

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

This text introduced by 802.3bq says "If the device supports EEE operation for 25GBASE-T as defined in 113.6.1, ." but 113.6.1 is "Support for Auto-Negotiation". 113.1.3.3 seems to contain more information about EEE than 113.6.1 does.

SuggestedRemedy

Change "113.6.1" to "113.1.3.3"

Response *Response Status* **C**

ACCEPT.

Cl **81** SC **81.5.3.7** P **132** L **8** # 6

Anslow, Pete Ciena

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

For item LINT2 "CARRIER_STATUS response to Link Interruption" (as introduced by 802.3bq) the subclause is "81.4.2" but this does not mention "Link Interruption". However, 81.1.7.3 does contain discussion of CARRIER_STATUS in relation to Link Interruption.

SuggestedRemedy

Change "81.4.2" to "81.1.7.3"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.143.1** *P* **179** *L* **34** # 7

Anslow, Pete Ciena

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

This text introduced by 802.3bn says "and their reflective registers" which should be "and their respective registers".
Same issue in 45.2.1.143.5

SuggestedRemedy

Change "reflective" to "respective" here and in 45.2.1.143.5

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.143.3** *P* **179** *L* **47** # 8

Anslow, Pete Ciena

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

This text introduced by 802.3bn says "the variable US_CID defined in 102.2.3.1.1" . While "US_CID" is mentioned in 102.2.3.1.1, it is defined in 102.2.7.3.

SuggestedRemedy

Change "102.2.3.1.1" to "102.2.7.3"

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.2** *P* **319** *L* **50** # 9

Anslow, Pete Ciena

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

This text introduced by 802.3bn says "The EPoC PHY utilizes a 64B/66B Encoder based on that described in 49.2.5 ." but 49.2.5 is "Transmit process" and does not describe the 64B/66B encoder, which is described in 49.2.4 "64B/66B transmission code"

SuggestedRemedy

Change "49.2.5" to "49.2.4"

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.4.1.8** *P* **449** *L* **29** # 10

Anslow, Pete Ciena

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

In this text (LinkUpRdy) introduced by 802.3bn "or as describe in 102.4.4" should be "or as described in 102.4.4"

SuggestedRemedy

Change "or as describe in 102.4.4" to "or as described in 102.4.4"

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.4.4.4** *P* **518** *L* **10** # 11

Anslow, Pete Ciena

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

In item MP17 introduced by 802.3bn the cross-reference (marked as external to the 802.3bn amendment) to "74.2.2.4" does not exist. When integrating the amendment into the 802.3 revision, the correct target for this cross-reference was not clear, so it was left in forest green font. Also, "prioroty" should be "priority".

SuggestedRemedy

Change "74.2.2.4" to "77.2.2.4"
In Value/Comment change: "MAC Control interface has prioroty over other clients" to "MAC Control interface has priority over other clients (see definition of SelectFrame)"

Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.4** *P* **516** *L* **12** # 12

Anslow, Pete Ciena

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

73.6.4 "Technology Ability Field" says: "Technology Ability Field (A[24:0]) is a 25-bit wide field containing ." but the 802.3by amendment changed this field to be A[22:0] without correcting this text.

SuggestedRemedy

Change: "Technology Ability Field (A[24:0]) is a 25-bit wide field containing ." to:
"Technology Ability Field (A[22:0]) is a 23-bit wide field containing ."

Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.5** *P* **517** *L* **3** # 13

Anslow, Pete — Ciena

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

The 802.3by amendment changed "FEC (F0:F1) is encoded in bits D46:D47 ..." to "FEC (F2:F3:F0:F1) is encoded in bits D44:D47 ...". The ":" separator was ok for "FEC (F0:F1)" but is not appropriate for "FEC (F2:F3:F0:F1)"

SuggestedRemedy

Change: "FEC (F2:F3:F0:F1)" to: "FEC (F2, F3, F0, F1)"

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.9.1.1.14** *P* **481** *L* **33** # 14

Anslow, Pete — Ciena

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

This includes ". a maximum increment rate of 100000 per second .", which is inconsistent with the rest of the draft, which uses a space as a thousands separator for numbers in text greater than 10000

SuggestedRemedy

Change "100000" to "100 000"

Response *Response Status* **C**

ACCEPT.

Cl **31B** *SC* **31B.4.6** *P* **761** *L* **21** # 15

Anslow, Pete — Ciena

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

The format of PICS items TIM2 through TIM11 is unusual and therefore confusing.

SuggestedRemedy

Give each item TIM2 through TIM11 its own row in the table with a Subclause entry of 31B.3.7.
Remove the subrow: "Delay from receiving valid PAUSE command, with nonzero value for pause_time, to cessation of transmission", "31B.3.7", "Measured as described".
Apply a footnote to the Value/Comment entry for each item TIM2 through TIM11 with same content as deleted feature: "Delay from receiving valid PAUSE command, with nonzero value for pause_time, to cessation of transmission."
In the support column for TIM2 through TIM11, change "M: Yes [ ]" to "Yes [ ]"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.11.1** *P* **317** *L* **20** # 16

Anslow, Pete — Ciena

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

"in contained in 55.6.2" should be "is contained in 55.6.2"

SuggestedRemedy

Change "in contained in 55.6.2" to "is contained in 55.6.2"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.84** *P* **131** *L* **2** # 17

Anslow, Pete — Ciena

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

There is no text in 45.2.1.84 that refers to Table 45-64

SuggestedRemedy

Add "The assignment of bits in the MultiGBASE-T fast retrain status and control register is shown in Table 45-64."

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3** *P* **216** *L* **52** # 18

Anslow, Pete — Ciena

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

In Table 45-168, the names for registers 3.42 and 3.43 do not match the names in 45.2.3.18 and 45.2.3.19

SuggestedRemedy

In Table 45-168, change "test pattern" to "test-pattern" in the rows for 3.42 and 3.43

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.25.12** *P* **248** *L* **9** # 19

Anslow, Pete Ciena

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

The bit numbers and lane numbers are incorrect in 45.2.3.25.12

SuggestedRemedy

Change "bit 3.53.8" to "bit 3.53.0" in 2 instances
Change "lane 0" to "lane 8" in 2 instances

Response *Response Status* **C**

ACCEPT.

Cl **113** *SC* **113.11** *P* **800** *L* **10** # 20

Anslow, Pete Ciena

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

The second sentence of the note is: "For 25GBASE-T and 40GBASE-T, Equation (105-1) specifies the calculation of bit time per meter of electrical cable for 25GBASE-T." which is somewhat garbled.

SuggestedRemedy

Change to "Equation (105-1) specifies the calculation of bit time per meter of electrical cable for 25GBASE-T."

Response *Response Status* **C**

ACCEPT.

Cl **92** *SC* **92.8.3.8.2** *P* **427** *L* **1** # 21

Anslow, Pete Ciena

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

Equations 92-12 to 92-16, 92-18, and 92-19 use a dot as a multiply sign which is not in accordance with the IEEE-SA Standards Style Manual.

SuggestedRemedy

Change all instances to a multiply sign

Response *Response Status* **C**

ACCEPT.

Cl **92** *SC* **92.10.5** *P* **435** *L* **48** # 22

Anslow, Pete Ciena

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

"." missing at the end of the first sentence of 92.10.5

SuggestedRemedy

Add the "."

Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **0** *P* *L* # 23

Anslow, Pete Ciena

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

http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html has "auto-negotiation" but there are instances of "autonegotiation" in:
30.3.3.6 (2 instances)
30.7.1
45.2.7.16

SuggestedRemedy

Change all instances of "autonegotiation" to "Auto-Negotiation"

Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **0** *P* *L* # 24

Anslow, Pete Ciena

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

Gray-mapped, Gray mapper and Gray-coded should all use a capital "G" because the name comes from Frank Gray

SuggestedRemedy

Change "gray" to "Gray" in 94.3.10.8 (2 instances) and Figure 126-6.

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1** P **58** L **43** # 25

Anslow, Pete Ciena

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

The Register name column in Table 45-3 should not include "register" or "registers" at the end of the register names.

SuggestedRemedy

Remove "registers" from the rows for 1.162 through 1.164 and 1.165, 1.166
Remove "register" from the rows for 1.200, 1.201, and 1.206

Response *Response Status* **C**

ACCEPT.

Cl **82** SC **82.3.1** P **162** L **21** # 26

Anslow, Pete Ciena

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

The title of Table 82-11 "MDIO/PMD status variable mapping" should be "MDIO/PCS status variable mapping"

SuggestedRemedy

Change "MDIO/PMD" to "MDIO/PCS"

Response *Response Status* **C**

ACCEPT.

Cl **83** SC **83.5.10** P **192** L **18** # 27

Anslow, Pete Ciena

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

"Ln9_PRBS_Rx_test_error_counter" should be "Ln9_PRBS_Rx_test_err_counter"

SuggestedRemedy

Change "Ln9_PRBS_Rx_test_error_counter" to "Ln9_PRBS_Rx_test_err_counter"

Response *Response Status* **C**

ACCEPT.

Cl **104** SC **104.4.4.1** P **529** L **27** # 28

Stewart, Heath Analog Devices

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

The 200nF maximum limit on a PSE's Cout is limiting. The current maximum limit in some common circuit configurations can cause stability issues. The attached analysis demonstrates that the proposed change does not create the potential for one PSE to detect another PSE as a valid PD. In addition, since no other detection parameters are affected, there is no impact on interoperability of existing PoDL networks.
This has been submitted as Maintenance Request 1308 and has been put forth as a comment to expedite the change process.
There is no impact on existing systems. Inclusion of this change as a comment will allow vendors the ability to take advantage of specification relaxation before any devices are out in the market.
See analysis at http://www.ieee802.org/3/maint/requests/maint_1308.pdf

SuggestedRemedy

Change Table 104-3 Item 5 Max limit from 200 nF to 2.64 uF.

Response *Response Status* **C**

ACCEPT.

Cl **82** SC **82.3.1** P **161** L **45** # 29

Anslow, Pete Ciena

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

The title of 82.3.1 "PMD MDIO function mapping" should be "PCS MDIO function mapping". Also, the last sentence of 82.3.1 (Page 162, line 1) "Mapping of MDIO status variables to PMD status variables is shown in Table 82-11." should be "Mapping of MDIO status variables to PCS status variables is shown in Table 82-11."

SuggestedRemedy

Change "PMD" to "PCS" in the title of 82.3.1 and in the last sentence of 82.3.1.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.1** *P* **47** *L* **35** # 30

Umnov, Alexander Corning

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

There is pages number mismatch. Contents list refers to page 54 as section 1.1, but it is page 47 in the current version. Other sections have similar mismatch

SuggestedRemedy

When final version is ready, update pages number in the contents

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Ensure alignment between the table of contents and the body of the draft.

Cl **110** *SC* **110.13.4.4** *P* **170** *L* **18** # 31

Klempa, Michael UNH IOL

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

RC6 Feature is "common-mode input return loss" but the subclause is 92.8.4.3 which defines "Differential to common-mode input return loss"

SuggestedRemedy

Change feature to "Differential to common-mode input return loss"

Response *Response Status* **C**

ACCEPT.

[Editor's note: CommentType not specified (set to E). Changed subclause to 110.13.4.4 and line to 18.]

Cl **92** *SC* **92.14.4** *P* **449** *L* # 32

Klempa, Michael UNH IOL

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

The text in 92.8.3.7 states "SNDR shall be greater than 26 dB regardless of equalizer setting" but in the PICS "regardless of equalizer setting" is noticeably absent. This is inconsistent with other transmitter tests such as EOJ, EBUJ and ETUJ where they define "regardless of equalizer setting" in the text as well as the PICS.

SuggestedRemedy

Change the PICS to state "Greater than or equal to 26 dB regardless of transmit equalization setting"

Response *Response Status* **C**

ACCEPT.

[Editor's note: Changed subclause to 92.14.4. The PICS item in question is TC23.]

Cl **109** *SC* **109B.5.4.1** *P* **945** *L* **44** # 33

Klempa, Michael UNH IOL

Comment Type **E** *Comment Status* **R** *bucket*

TH11, TH12, and TH13 reference subclause 83E3.1 but should reference 109B.4.1 which references 83E3.1 but with differences in methodology

SuggestedRemedy

Change the subclause to 109B.4.1

Response *Response Status* **C**

REJECT.

[Editor's note: Changed subclause to 109B.5.4.1, page to 945, line to 44.]

Per the Value/Comment column, TH11, TH12, and TH13 pertain to the eye height and width values and not the measurement method. In that context, the reference would be to 109B.3.1 "25GAUI C2M host output characteristics" but since that subclause points to 83E.3.1, the reference to 83E.3.1 in the PICS is appropriate.

Cl **25** *SC* **25.4.7** *P* **227** *L* **43** # 34

McClellan, Brett Marvell

Comment Type **ER** *Comment Status* **A** *bucket*

link parameters are specified in 25.4.9 not 25.4.8

SuggestedRemedy

change "25.4.8" to "25.4.9"

Response *Response Status* **W**

ACCEPT.

Cl **126** *SC* **126.8.2.2** *P* **124** *L* **42** # 35

McClellan, Brett Marvell

Comment Type **ER** *Comment Status* **A** *bucket*

error in the editor's note, "40" should be "250"

SuggestedRemedy

change "40" to "250"

Response *Response Status* **W**

ACCEPT.

Cl **97** *SC* **97.3.2.2.5** *P* **118** *L* **16** # 36

McClellan, Brett — Marvell

Comment Type **ER** *Comment Status* **A** *bucket*

typo in the figure text "80B/ 80B/81B"

SuggestedRemedy

change "80B/ 80B/81B" to "80B/81B"

Response *Response Status* **W**

ACCEPT.

Cl **82** *SC* **82.2.3.6** *P* **143** *L* **38** # 37

Trowbridge, Steve — Nokia

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

Since the signal ordered set is reserved for INCITS T11 Fibre Channel use, it is presumably an invalid block if received on an Ethernet PHY (and there is nothing in the standard that would tell you what to do with this block if it were valid). However, the wording of 82.2.3.5 (c) does not label it as an invalid block since it is a control code that is listed in Table 82-1

SuggestedRemedy

Change footnote (a) of Table 82-1 to read "INCITS T11 Fibre Channel uses O code 0x5C for the Signal ordered set. OIF uses O code 0x5 for the FlexE [B58] ordered set".
Remove the last row of Table 82-1 and footnote b.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change footnote a of Table 82-1 to read "INCITS T11 Fibre Channel uses O code 0xF for the signal ordered set. OIF uses O code 0x5 for the FlexE [B58] ordered set."
Remove the last row of Table 82-1 and footnote b.

In 82.2.3.1 change:
"The control characters, /Q/ and /Fsig/, for ordered sets are labeled as O0 since they are only valid on the first octet of the XLGMII/CGMII." to:
"The control character /Q/ for a sequence ordered set is labeled as O0 since it is only valid on the first octet of the XLGMII/CGMII."

In 82.2.3.9:
Delete "An additional ordered set, the signal ordered set, has been reserved and it begins with another control code."
Change: "The ordered set control characters (/Q/ and /Fsig/) indicate the start of an ordered set." to:
"The ordered set control character /Q/ indicates the start of an ordered set."
Change "See Table 82-1 for the mappings." to "See Table 82-1 for the mapping."
Delete "Signal ordered sets are not deleted for clock compensation."

Cl **30** *SC* **30.1.1** *P* **341** *L* **6** # 38

Hoglund, David — Johnson Controls

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

No space between sentences

SuggestedRemedy

"subsequent additions to this standard. Implementations"
This might be just a defect of letter placement during PDF creation.
The file is SECTION TWO.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The space is missing and it is not a PDF artifact. Insert a space after the full stop.

Cl **30** *SC* **30.2.2.2.1** *P* **347** *L* **24** # 39

Hoglund, David — Johnson Controls

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

Unclosed appositive in a complex sentence reduces readability

SuggestedRemedy

"For DTE MACs, with regard to reception-related error statistics, a hierarchical order has been established ."
The file is SECTION TWO.
There is also an intrusive solution: "With regard to reception-related error statistics, a hierarchical order for DTE MACs has been established such that when multiple error statuses can be associated with one frame, only one status is returned to the LLC."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the first sentence of 30.2.2.2.1 to the following.
"A hierarchial order has been established for DTE MAC reception-related error statistics such that, when multiple error statuses can be associated with one frame, only one status is returned to the LLC."

Cl **45** *SC* **45.2** *P* **53** *L* **40** # 40
Hoglund, David Johnson Controls

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

Subject-verb agreement

SuggestedRemedy

"the contents of both registers are cleared"
The fie is SECTION FOUR.

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1** *P* **32** *L* **11** # 41
Hoglund, David Johnson Controls

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

Extra space: "in to" instead of "into" at line break between lines 11 and 12

SuggestedRemedy

"The transition time into and out of the lower level."
The file is SECTION SIX.

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.4.3** *P* **215** *L* **1** # 42
Hoglund, David Johnson Controls

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

Not clear if the reference is a word or defined entity, but context suggests that it an entity that should be capitalized

SuggestedRemedy

"Next Page transmission ends when both ends of a link segment set their Next Page bits to logical zero."

Response *Response Status* **C**

ACCEPT.

Just to confirm: changing "Next page" to "Next Page"

Cl **1** *SC* **1.3** *P* **64** *L* **14** # 43
Lusted, Kent Intel

Comment Type **T** *Comment Status* **A** *references, bucket*

reference to SFF-8436 is out of date.

SuggestedRemedy

Consider updating reference to Rev 4.8, October 31, 2013

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change reference to "SFF-8436, Rev 4.8, October 31, 2013, Specification for QSFP+ 10 Gbs 4X PLUGGABLE TRANSCEIVER."

[Editor's note: Cited only in Clause 85 (as "SFF-8436"). Citations explicitly call out the "mechanical mating interface".]

Cl **1** *SC* **1.3** *P* **64** *L* **16** # 44
Lusted, Kent Intel

Comment Type **T** *Comment Status* **A** *references, bucket*

reference to SFF-8642 is out of date.

SuggestedRemedy

Consider updating reference to Rev 3.2, January 26, 2017

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

[Editor's note: Changed page to 64, line to 16.]

Change reference to "SFF-8642, Rev. 3.2, January 26, 2017, Specification for Mini Multilane 12X 10 Gb/s Shielded Connector (CXP10)."

[Editor's note: Cited only in Clause 85 (as "SFF-8642"). Citations explicitly call out the "mechanical mating interface".]

Cl **1** *SC* **1.3** *P* **64** *L* **50** # 45

Lusted, Kent — Intel

Comment Type **T** *Comment Status* **A** *references, bucket*

Footnote 22 references specifications available at ftp://ftp.seagate.com/sff. In 2016, SFF Committee leaders transitioned the organizational stewardship to SNIA, to operate under a special membership class named Technology Affiliate, while retaining the longstanding technical focus on specifications in a similar fashion as all SNIA TWGs do. see https://www.snia.org/sff

SuggestedRemedy

Consider updating the website link to http://www.snia.org/sff/specifications

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The response to comment #71 updates footnote 22. See comment #71.

Cl **1** *SC* **1.3** *P* **55** *L* **41** # 46

Grow, Robert — RMG Consulting

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

It looks like ANSI has changed a lot of document numbers. Most of the ANSI documents cannot be found as referenced in this subclause. An ANSI webstore search on ANSI/TIA does not produce any of the documents cited with that lead on the document number. Fibre Channel and FDDI documents cannot be located with the cited numbers.

SuggestedRemedy

Update to locatable documents, some detailed updates are included in additional comments.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 1.3, update the normative references to ANSI documents as described in <http://www.ieee802.org/3/maint/public/healey_3_0917.pdf> and re-sort. Change all citations of these references to agree with the modifications made to 1.3.

Cl **1** *SC* **1.3** *P* **55** *L* **41** # 47

Grow, Robert — RMG Consulting

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

A search on :"Trace Message Formats" only shows: ATIS-0300269.2006(R2011), Structure and Representation of Trace Message Formats for Information Exchange

SuggestedRemedy

Update to current revision, and resort per new document number.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **55** *L* **44** # 48

Grow, Robert — RMG Consulting

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

A search on the document title finds: ATIS-0600417.2003(S2015), Spectrum Management for Loop Transmission Systems

SuggestedRemedy

Update to current revision, and resort per new document number.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **55** *L* **46** # 49

Grow, Robert — RMG Consulting

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

A search produces the current document: ATIS-0600424.2004(S2015), Interface Between Networks and Customer Installation Very-high-bit-rate Digital Subscriber Lines (VDSL) Metallic Interface (DMT based)

SuggestedRemedy

Update to current revision, and resort per new document number.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **55** *L* **49** # 50
Grow, Robert RMG Consulting

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

A search produces: ATIS-0600601.1999(R2014), Integrated Services Digital Network (ISDN) û Basic Access Interface for Use on Metallic Loops for Application on the Network Side of the NT (Layer 1 Specification)

SuggestedRemedy

Update to current revision, and resort per new document number.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **56** *L* **1** # 51
Grow, Robert RMG Consulting

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

A search produces: ATIS-0600605.1991(S2015), Integrated Services Digital Network (ISDN)<emdash>Basic Access Interface for S and T Reference Points (Layer 1 Specification)

SuggestedRemedy

Update to current document number.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **56** *L* **4** # 52
Grow, Robert RMG Consulting

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

The document could not be found on the ANSI web store with multiple search attempts.

SuggestedRemedy

Get our incoming and outgoing TIA liaisons to provide recommendations for where to get the document, and if necessary, updated reference information for references in lines 4 to 21.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **56** *L* **7** # 53
Grow, Robert RMG Consulting

Comment Type **TR** *Comment Status* **A** *references, bucket*

Footnote 3 is possibly a cut and paste with incomplete editing error (ANSI in the introduction text, and astm in the URL).

SuggestedRemedy

Delete the footnote.

Response *Response Status* **W**

ACCEPT.

Cl **1** *SC* **1.3** *P* **56** *L* **23** # 54
Grow, Robert RMG Consulting

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

An ANSI web store search produces: ANSI INCITS 230-1994 (R1999), Information Technology - Fibre Channel - Physical and Signaling Interface (FC-PH) (formerly ANSI X3.230-1994 (R1999)) (includes supplements)

SuggestedRemedy

Update to current document number.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **56** *L* **25** # 55
Grow, Robert RMG Consulting

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

An ANSI web store search on TP-PMD produces: ANSI INCITS 263-1995 (S2010), Fibre Distributed Data Interface (FDDI) - Token Ring Twisted Pair Physical Layer Medium Dependent (TP-PMD) (formerly INCITS 263-1995 (R2005))

SuggestedRemedy

Update to the stabalized document with new number.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #46.

Cl **1** *SC* **1.3** *P* **56** *L* **30** # 56

Grow, Robert RMG Consulting

Comment Type **T** *Comment Status* **R** *references, bucket*

Could not verify document name without having a login for the ATIS Document Center. (Is it really capitalized NETwork?) Either ATIS is inconsistent (see line 33) or we are.

SuggestedRemedy

Verify document title is capitalized (NETwork versus Network to produce acronym SONET), and that inconsistency with line 33 is accurate.

Response *Response Status* **C**

REJECT.

Both references agree with the document titles shown in the results of a search at <https://www.atis.org>. Under "Document Center" click "Search" and enter the numbers in the "Document Number" field. No login is required for this search.

Cl **1** *SC* **1.3** *P* **56** *L* **38** # 57

Grow, Robert RMG Consulting

Comment Type **T** *Comment Status* **R** *references*

CISPR 22 has been withdrawn (2008 revision), IEC webstore indicates it is replaced by CISPR-32. This probably isn't a problem for the 8.7.3.2 and 9.9.7.2.1 citations because both of those clauses are deprecated but is an issue for 15.6.2 citation.

SuggestedRemedy

Consider deprication of clause 15 (10BASE-F).

Response *Response Status* **C**

REJECT.

Clause 15 and Clause 18 together define 10BASE-FL which is currently expected to have continued use. Therefore Clause 15 should not be deprecated.

Withdrawn standards may still be used as normative references. See IEEE-SA Standards Style manual 10.5.1 item h).
"Reference to withdrawn standards may be made; however, sponsors are cautioned that withdrawn standards may contain obsolete or erroneous information and may be difficult to retrieve."

As pointed out in the comment, CISPR 22 is available from the IEC webstore.

Cl **1** *SC* **1.3** *P* **56** *L* **43** # 58

Grow, Robert RMG Consulting

Comment Type **T** *Comment Status* **R** *references, bucket*

This revision does not appear to be available on the ETSI website as an historical document.

SuggestedRemedy

Update to ETSI TS 101 270-1 V1.4.1 (2005-10), or we need to update the footnote for a place to get historical documents.

Response *Response Status* **C**

REJECT.

The reference is present at <www.etsi.org>.
Historical documents are included in the search results by checking the "All versions" radio butten under "Filter search results" -> "VERSION / STATUS" (left pane of the search results window).

Cl **1** *SC* **1.3** *P* **57** *L* **12** # 59

Grow, Robert RMG Consulting

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

The cited document has been revised (more than once). The title of the historical version (on the IEC webstore) does not agree with this normative reference. We continue to cite this standard in recent clauses. Note depricated clause 23 includes year citations. Clause 40 cites the 1990 revision. Clause 55 cites 1996 as does clause 113 and 126.

SuggestedRemedy

Preferred solution is to update to an undated reference with current title (IEC 60603-7:2008+AMD1:2011, Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors). Alternate, update reference and referencing clauses to current version. Another less preferrable alterrnative would be to add additional references for other revisions as has been done for the following fiber optic standards (this would require paying attention to the undated citations in various clauses).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the reference to "IEC 60603-7, Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors."

Per the IEEE-SA Standards Style Manual, 10.5.1 item c), "Note that in-text reference to a specific clause, subclause, table, or figure of another document shall be dated even if the undated version of the document is listed in the normative references." Change reference to "IEC 60603-7" in 14.5.1, 14.10.4.5.14 (MR1), and 14.10.4.7.1 (LS16) to "IEC 60603-7:1990" as they refer to specfic a clause and specific figures.

55.8.1 and 126.8.1 include normative requirements related to IEC 60603-7-4 and IEC 60603-7-5 but these documents are not included in the list of normative references. Add the following to the list of normative references.
"IEC 60603-7-4, Connectors for electronic equipment - Part 7-4: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz."
"IEC 60603-7-5, Connectors for electronic equipment - Part 7-5: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz."

In 55.12.8 and 126.12.8, the Value/Comment for item MDI1 is inconsistent with the subclause reference. Replace the contents of the "Value/Comment" row with the following.
"Eight-pin connectors meeting the requirements of IEC 60603-7-4 (unscreened) or IEC 60603-7-5 (screened)."

113.8.1 includes normative requirements related to IEC 60603-7-51 and IEC 60603-7-81 but these documents are not included in the list of normative references. Add the following to the list of normative references.
"IEC 60603-7-51, Connectors for electronic equipment - Part 7-51: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 500 MHz."
"IEC 60603-7-81, Connectors for electronic equipment - Part 7-81: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 2 000 MHz."

In 113.12.8, the Value/Comment for item MDI1 is inconsistent with the subclause reference. Replace the contents of the "Value/Comment" row with the following.
"Eight-pin connectors meeting the requirements of IEC 60603-7-51 with the improved characteristics and frequency extensions specified in IEC 60603-7-81."

Cl **1** *SC* **1.3** *P* **60** *L* **19** # 60

Grow, Robert RMG Consulting

Comment Type **T** *Comment Status* **A** *references, bucket*

There is an inconsistency with citation of CISPR 22 and CISPR 25. Here, the number includes IEC before the CISPR, but the IEC web store does not include IEC in its title.

SuggestedRemedy

Delete IEC and resort document location.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement the suggested remedy and also change citations from "IEC CISPR" to "CISPR" in the following locations: 96.9.2.2, 96.11.4.9 (ES7), 97.9.2.2, 97.11.13 (ES4), 104.8.6, 115.12.4, 115.14.16 (E6).

Cl **1** *SC* **1.5** *P* **98** *L* **18** # 61

Grow, Robert RMG Consulting

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

Alphanumeric order violation

SuggestedRemedy

Move 2B before 2-PAM.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **99** *L* **25** # 62

Grow, Robert RMG Consulting

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

Alphanumeric order violation

SuggestedRemedy

Move DGD before DIC.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **102** *L* **31** # 63

Grow, Robert RMG Consulting

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

Alphanumeric order violation

SuggestedRemedy

Move RMS before ROFL.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.9.1** *P* **189** *L* **10** # 64

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A**

The maintenance request changes are incomplete. With the change to the paragraph above the Editor's Note, Clause 96, 97, and 115 have the same identical paragraph --that's good. Unfortunately, the variious PICS items derived from the shall in that paragraph are inconsistent between clauses.

Clause 96 has a major option AUTO, and in 96.11.4.9 ES2 is also optional. This seems correct.

Clause 97 has no major option for its 97.11.13 ES1, which has a Status of M. This needs to be corrected!

Clause 115 has a major option AE, with 115.14.15 but Status being mandatory, with a Yes/NA in the Support.

Clause 104 (PoDL) does not have the same paragraph, but in the description for applicabilitry of ISO 26262, uses a may and therefore there is no associated PICS item.

SuggestedRemedy

The minimal change would be to change 97.11.13 Status to O and Support to Yes, N/A.

For consistency, 115.14.15, E3, Status should be changed to O.

Consider change of text in subclause 104.8.1 to read similar to the paragraph in the three PHY clauses with a shall when required by the application, with the addition of a related PICS item.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Note that the text in 96.9.1 (as well as 97.9.1 and 115.12.2) states that conformance to ISO 26262 is "for motor vehicle applications only, if required by the given application". It is not a requirement for all automotive applications. It is therefore appropriate to indicate "conformance to ISO 26262" as optional for automotive applications. The implementer who completes the PICS can then indicate conformance to ISO 26262 and hence suitability for applications that require it.

In 96.11.4.9 item ES1, change "Value/Comment" to "For IT and motor vehicle applications".
In 96.11.4.9 item ES3, change "Value/Comment" to "For motor vehicle applications only, if required by the given application", "Status" to "AUTO:O", and "Support" to "Yes [], No [], N/A []".
In 96.11.4.9, remove item ES2 and renumber subsequent items accordingly.

In 97.11.13 item ES1, change "Feature" to "Conformance to IEC 60950-1" and "Value/Comment" to "For IT and motor vehicle applications"
In 97.11.13 item ES1a, change "Feature" to "Conformance to ISO 26262",

"Value/Comment" to "For motor vehicle applications only, if required by the given application", "Status" to "AUTO:O", and "Support" to "Yes [], No [], N/A []".
In 97.11.13, change ES1a to ES2 and renumber subsequent items accordingly.

In 115.14.16 item E2, change "Feature" to "Conformance to IEC 60950-1" and "Value/Comment" to "For IT and motor vehicle applications".
In 115.14.16 item E3, change "Feature" to "Conformance to ISO 26262", "Value/Comment" to "For motor vehicle applications only, if required by the given application", and "Status" to "AE:O", and "Support" to "Yes [], No [], N/A []".

In 104.8.1, it is a stated that, "for automotive applications, systems described in this clause may be subject to additional requirements; refer to ISO 26262." This is consistent with the notion that conformance to ISO 26262 is not a requirement for all automotive applications. However, it does not impose a conditional requirement on conformance to ISO 26262 and no change to the Clause 104 PICS is necessary. There is no clear advantage to making any changes to this text.

Cl **78** *SC* **78.1.4** *P* **38** *L* **6** # 65

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A**

Tables 78-1. 78-2 and 78-4 are growing large enough to become a problem finding relevant items. When amendments 10 through 12 are merged, the problems will become more obvious. We need a consistent sort order, and as operational data rates multiply, interfaces are no longer linked to only one specific speed. This makes a speed ordered list which has been the approach to date problematic. Also, within a speed, the number of port types is increasing resulting in longer blocks of the table that are not consistently ordered within a speed.

SuggestedRemedy

Sort all three tables using the rules for 1.4 sort order.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Split XLAUI and CAUI-10 into separate rows.

Sort the result in "speed/reach" order using the following set of rules.
1. Increasing speed.
2. Increasing reach (maximum supported distance over the medium).
3. Decreasing number of lanes

The following supplemental rules address are included to address special cases.
4. PHY "family designations, by convention, are assigned a reach of 0.
5. "Copper" PHYs precede "Fiber" PHYs (all else being equal).
6. Alphanumeric sort (all else being equal).

Cl **78** *SC* **78.2** *P* **40** *L* **35** # 66

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A** *bucket*

Amendments have not been consistent in how timing parameters are entered. At line 35, there are two port types sharing values in the same row, yet in the next row, two additional port types using the same values are in separate rows. At lines 21, 41 and 46, individual port types are listed, even when adjacent port types have identical values. If this table is sorted in 1.4 sort order, then values should be listed for each port type, and not shared in a row.

SuggestedRemedy

Split rows with multiple port types in the first column into separate rows.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Apply the following rule to Table 78-2 and Table 78-4.

After application of the sort order defined in the response to comment #65, adjacent PHYs and interfaces that share that same values for all defined cases in all columns will share the same row (or rows for multiple cases) to conserve space.

Cl **78** *SC* **78.5** *P* **55** *L* **48** # 67

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A** *bucket*

Like Table 78-2, this table is inconsistent in how different port types with identical values are displayed. This table adds the compliation that identical values are correlated with the second column rather than the first column. (Compare rows at 31 with the row at line 48.)

While this listing is more compact in space used, as the table grows, finding port types when not sorted by name will become increasingly difficult.

SuggestedRemedy

Where multiple cases exist for a port type, the column 1 should only list one port type, in a mergd cell, but each case having its own row for a given port type as is done at line 31.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #66.

Cl **73** *SC* **73.6.4** *P* **516** *L* **41** # 68

Marris, Arthur — Cadence Design Syste

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

Implement maintenance request 1283

SuggestedRemedy

Delete 3rd paragraph of 73.6.4 and replace with the following note:

NOTE- Previous editions of this standard prohibited advertisement of PHYs that support operation over electrical backplanes with PHYs that support operation over copper cable assemblies.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Replace the 3rd paragraph of 73.6.4 with the following note.
"NOTE- Previous editions of this standard prohibited simultaneous advertisement of PHYs that support operation over electrical backplanes with PHYs that support operation over copper cable assemblies."

Also remove PICS item LE18 as requested in Maintenance Request 1283.

Cl **91** *SC* **91.5.4.2** *P* **393** *L* **12** # 69

Marris, Arthur — Cadence Design Syste

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

Improve implementation of maintenance request 1299. Use 802.3cd draft 2.1 as a reference in doing this.

SuggestedRemedy

1) Consider moving amap_bad_count definition to 91.5.4.2.3 Counters
2) Add fec_optional_states variable to 91.5.4.2.1 Variables
Insert fec_optional_states definition after fec_lane as follows:
fec_optional_states
Boolean variable that is true if the optional states are implemented and false otherwise.
3) Add "FEC optional states supported" to Table 91-3-MDIO/RS-FEC status variable mapping
4) Add 91.6.6 renumbering subsequent clauses:
91.6.6 FEC_optional_states
This variable is set to true when the optional states in the FEC synchronization state diagram are implemented. This variable is mapped to the bit defined in 45.2.1.102 (1.201.7).
5) Add new bit to 45.2.1.107 RS-FEC status register (Register 1.201)

45.2.1.107 FEC optional states supported (1.201.7)
When read as a one, bit 1.201.7 indicates that the RS-FEC described in Clause 91 implements the optional
states in Figure 91-8. When read as a zero, bit 1.201.7 indicates that the optional states

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

In Figure 91-8, move the optional states down by making the dotted box the same shape as per the P802.3cd draft.
Move amp_bad_count definition to 91.5.4.2.3 Counters
Insert fec_optional_states definition in 91.5.4.2.1 after fec_lane:
fec_optional_states
Boolean variable that is true if the optional states are implemented and false otherwise.
Insert a new row in Table 91-3 after the "RS-FEC high SER" row:
"FEC optional states supported", "RS-FEC status register", "1.201.7", "fec_optional_states"
Insert a new subclause after 91.6.5 hi_ser:
91.6.6 FEC_optional_states
This variable is set to true when the optional states in the FEC synchronization state diagram are implemented. This variable is mapped to the bit defined in 45.2.1.107 (1.201.7).

Add a new row to Table 45-85:
"1.201.7", "FEC optional states supported", "1 = RS-FEC supports optional states in Figure 91-8 0 = RS-FEC does not support optional states in Figure 91-8", "RO"
and update the reserved row accordingly.

Insert a new subclause after 45.2.1.107.6:
45.2.1.107.7 FEC optional states supported (1.201.7)
When read as a one, bit 1.201.7 indicates that the RS-FEC described in Clause 91 implements the optional states in Figure 91-8. When read as a zero, bit 1.201.7 indicates that the optional states are not implemented.

Cl **69** *SC* **69.3** *P* **433** *L* **15** # 70

Anslow, Pete Ciena

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

There are two tables numbered Table 69-3

SuggestedRemedy

Remove the "n=3" override from the second Table 69-3. Remove the "n=6" override from the heading for 69.2.6. Correct the autonumber format for all level 2 headings in Clause 69 to be "H:<n>.<n+> < =0>< =0>< =0>< >< >< >< >"

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.3** *P* **64** *L* **50** # 71

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **A** *references, bucket*

The SFF Committee has transitioned its activities to become a SNIA (Storage Networking Industry Association) TA (Technology Affiliate) and the document repository at ftp://ftp.seagate.com/sff/ only contains pointers to the new storage location at www.snia.org/sff/specifications

SuggestedRemedy

Change footnote 22 from:
"SFF specifications are available at ftp://ftp.seagate.com/sff." to:
"SFF specifications are available from the Storage Networking Industry Association (http://www.snia.org/sff/specifications)."

Response *Response Status* **C**

ACCEPT.

Cl **119** *SC* **119.6** *P* **618** *L* **29** # 72

Slavick, Jeff Broadcom Ltd

Comment Type **T** *Comment Status* **R** *bucket*

The remote loopback ability bit for 25G points to the 40/100G extended ability register. But 25G has it's own extended ability register which is where this ability bit should reside.

SuggestedRemedy

In Table 45-20 define bit 15 to be 25G PMA Remote Loopback Ability
Add: 45.2.1.17.1 25G PMA remote loopback ability (1.19.15)
When read as a one, bit 1.19.15 indicates that the PMA is able to perform the remote loopback function.
When read as a zero, bit 1.19.15 indicates that the PMA is not able to perform the remote loopback function.
If a PMA is able to perform the remote loopback function, then it is controlled using the PMA remote
loopback bit 1.0.1 (see 45.2.1.1.4).
In Table 109-3 change the MDIO reference to 1.19.15

Response *Response Status* **C**

REJECT.

While it is true that it would have been cleaner to have defined bit 1.19.15 in the 25G PMA/PMD extended ability register to indicate the remote loopback ability for the 25G PMA, this was not how it was defined in IEEE Std 802.3by-2016. If this is changed now it will invalidate any existing compliant implementations of the 25G PMA.

Cl **91** *SC* **91.5.3.3** *P* **387** *L* **33** # 73

Slavick, Jeff — Broadcom Ltd

Comment Type **E** *Comment Status* **R**

In other clauses we will sub-heading optional features and 803.cd is doing this with the new degrade monitor feature. Currently the RS-FEC has 2 optional features.

SuggestedRemedy

Place the last 5 paragraphs of 91.5.3.3 under a heading of 91.5.3.3.2 Bypass Error Indication (optional)
Move the paragraph starting with "The Reed-Solomon decoder indicates errors" to be the 3rd paragraph of 91.5.3.3
Place the paragraph beginning with "The Reed-Solomon decoder may provide the option to perform error detection" and the NOTE under a new sub-heading 91.5.3.3.1 Bypass Error Correction (optional)
Update the references in 91.6.1, 91.6.2, 91.6.3, 91.6.4, 91.6.5, 91.7.3, 91.7.4.2, 93.1, 93.8.2.3, 45.2.1.106.2, 45.2.1.106.3, 45.2.1.107.7, 45.2.1.107.8, 45.2.1.107.9

Response *Response Status* **C**

REJECT.

The P802.3bj project decided to place all of the text describing the Reed-Solomon decoder in a single subclause, including the optional features.
Changing this and creating a new subclause for each optional feature would cause a large number of changes to the draft without any significant improvement in the clarity of the draft.

Cl **108** *SC* **108.5.3.2** *P* **594** *L* **1** # 74

Slavick, Jeff — Broadcom Ltd

Comment Type **E** *Comment Status* **R**

If the modification to Clause 91 are done to make the optional features of the rsfec decoder sub-headings then do the same edit to keep things common across clauses. Currently the RS-FEC has 2 optional features.

SuggestedRemedy

Place the last 4 paragraphs and NOTE3 of 108.5.3.2 under a heading of 108.5.3.2.2 Bypass Error Indication (optional)
Move the paragraph starting with "The Reed-Solomon decoder indicates errors" and NOTE2 to be the 3rd paragraph of 108.5.3.2
Place the paragraph beginning with "The Reed-Solomon decoder may provide the option to perform error detection" and the NOTE under a new sub-heading 108.5.3.2.1 Bypass Error Correction (optional)
Update the references in 108.6.1, 108.6.2, 108.6.4, 108.6.5, 108.6.6, 108.7.3, 108.7.4.2, 110.1, 111.1, 45.2.1.106.2, 45.2.1.106.3, 45.2.1.107.7, 45.2.1.107.8, 45.2.1.107.9

Response *Response Status* **C**

REJECT.

The P802.3by project decided to place all of the text describing the Reed-Solomon decoder in a single subclause, including the optional features.
Changing this and creating a new subclause for each optional feature would cause a large number of changes to the draft without any significant improvement in the clarity of the draft.

Cl **55** *SC* **55.3.6.2.2** *P* **724** *L* **50** # 75

Zimmerman, George — CME Consulting, Inc.

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

"where the lfer_cnt exceeds 16"
lfer_cnt is defined as only counting up to a maximum of 16. A similar comment was made and accepted on 802.3bq and 802.3bz (802.3bq initial sponsor ballot comment i-80)

SuggestedRemedy

change "exceeds" to "reaches"

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.1.3** *P* **689** *L* **41** # 76

Zimmerman, George CME Consulting, Inc.

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

PMA_LINK.indication (link_status) is not shown connecting the PMA to the PCS in Figure 55-4 '10GBASE-T service interfaces', is not listed in subclause 55.2.2 'PMA service interface', and is not used in the PCS state diagram on referenced in the PCS related text, but is shown in Figure 55-3. (comment 110, 802.3bq 3rd WG recirc)

SuggestedRemedy

Suggest that:
[1] Remove the 'link_status' signal from the connection above the 'LINK MONITOR' block to the
'PCS TRANSMIT & TRANSMIT CONTROL' block in figure 55-3 'Function block diagram'.
[2] Remove the 'link_status' signal from figure 55-5 'PCS reference diagram'.
[3] Remove the 'link_status' signal from the connection above the 'LINK MONITOR' block to the
'PMA SERVICE INTERFACE' in figure 55-21 'PMA reference diagram' (keep connection to TDI)
[4] Update the variable definition for 'link_status' in subclause 55.4.5.1 'State diagram variables' to read 'The link_status parameter set by PMA Link Monitor state diagram and communicated through the PMA_LINK.indicate primitive.'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Apply the suggested remedy except for the variable definition for 'link_status' in subclause 55.4.5.1 'State diagram variables'. Change this to read 'The link_status parameter set by PMA Link Monitor state diagram and communicated through the PMA_LINK.indication primitive.'

Cl **55** *SC* **55.2.1.2.3** *P* **694** *L* **40** # 77

Zimmerman, George CME Consulting, Inc.

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

This subclause states that 'The effect of receipt of this primitive is specified in 55.3.6.2.' however 'PMA_LINK.indication', nor the 'link_status' parameter communicated by this primitive,
are referenced in subclause 55.3.6.2 'State diagram parameters' for the PCS state diagrams.
Instead this primitive is generated by the Link Monitor state diagram and used by Auto-Negotiation. (comment 115, 802.3bq 3rd WG recirc)

SuggestedRemedy

Suggest the text 'The effect of receipt of this primitive is specified in 55.3.6.2.' should be replaced with 'Auto-Negotiation uses this primitive to detect a change in link_status as described in Clause 28.'.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.2.2.3.2** *P* **698** *L* **26** # 78

Zimmerman, George CME Consulting, Inc.

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

This subclause states that 'The PCS generates PMA_UNITDATA.request (SYMB_4D) synchronously with every transmit clock cycle.'. As well as SYMB_4D, the value ALERT can also be conveyed by this message (see subclause 55.2.2.3.1). Shouldn't this case also be covered, if so the simplest approach would appear to be to send a PMA_UNITDATA.request

SuggestedRemedy

Suggest that 'The PCS generates PMA_UNITDATA.request (SYMB_4D) synchronously with every transmit clock cycle.' should be changed to read 'The PCS generates PMA_UNITDATA.request synchronously with every transmit clock cycle.'.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.1** *P* **703** *L* **52** # 79

Zimmerman, George CME Consulting, Inc.

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

This subclause states that 'PCS Reset sets pcs_reset=ON while ...' however subclause 55.3.6.2.2 'Variables' defines pcs_reset as a Boolean. (802.3bq 3rd WG recirc comment 117)

SuggestedRemedy

Suggest that '... sets pcs_reset=ON ...' should be changed to read '... sets pcs_reset = true ...'.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.2** *P* **704** *L* **3** # 80

Zimmerman, George CME Consulting, Inc.

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

While this subclause states that the PCS transmit function shall meet the PCS state diagram
(Figure 55-16) and bit ordering (Figures 55-6 and 55-8) I don't believe that either of these address the operation of what appears to be a three way multiplexor controlled by the PMA_TXMODE.indication parameter tx_mode which selects between training (SEND_T), normal (SEND_N) and sending zeros (SEND_Z). There does appear to be a description of this
in paragraphs six, seven and nine of this subclause, however they do not contain 'shall' statements, nor does it appear there are any related shall statements elsewhere. Based on this
there doesn't appear to be any 'shall' statements in relation to the control of the parameter tx_mode. (comment 120 802.3bq 3rd WG recirc)

SuggestedRemedy

Suggest that:
[1] The text '... has the value SEND_Z, PCS Transmit passes a vector of zeros ...' be change to
read '... has the value SEND_Z, PCS Transmit shall pass a vector of zeros ...'.
[2] The text '... has the value SEND_T, PCS Transmit generates sequences ...' be changed to
read '... has the value SEND_T, PCS Transmit shall generate sequences ...'.
[3] The text 'In the normal mode of operation, the PMA_TXMODE.indication message has the
value SEND_N, and the PCS Transmit function uses a ...' to read 'If a PMA_TXMODE.indication message has the value SEND_N, the PCS is in the normal mode of
operation, and the PCS Transmit function shall use a
[4] The PICS be updated to add these three new shall statements.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.2.22** *P* **716** *L* **52** # 81

Zimmerman, George — CME Consulting, Inc.

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

It is the tx_symb_vector parameter of the PMA_UNITDATA.request primitive that can be set to
the value ALERT (see subclause 55.2.2.3.1). As a result of that the next time the PMA_UNITDATA.request message is sent it will have the value ALERT. (802.3bq 3rd WG recirc, comment 133)

SuggestedRemedy

Suggest the text '... the PMA_UNITDATA.request message is set to the value ALERT.' be changed to read '... the PMA_UNITDATA.request parameter tx_symb_vector is set to the value
ALERT.'.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.3** *P* **717** *L* **43** # 82

Zimmerman, George — CME Consulting, Inc.

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

Subclause 55.3.7.1 'Status' seems to be the only location where the definition of the parameter
PCS_status is provided where it states that 'Indicates whether the PCS is in a fully operational
state. It is only true if block_lock is true and hi_lfer is false.'. In addition the PCS_status parameter is defined as having the values 'OK' and 'NOT_OK' (see 55.2.2.6.1) and not 'true' and 'false'.
Since this is a subclause of 55.3.7 'PCS management' suggest this is not the best place to provide the only definition. Instead, since Figure 55-3 shows PCS_status sourced from the PCS RECEIVE block, suggest this definition be provided in subclause 55.3.2.3 'PCS Receive
function'. (comment 137 802.3bq 3rd WG recirc)

SuggestedRemedy

Suggest that in subclause 55.3.2.3 'PCS Receive function' the text '... hi_lfer is de-asserted, the PCS Receive process continuously accepts blocks.' be changed to read '... hi_lfer is deasserted,
the PCS_status parameter of the PMA_PCSSTATUS.request primitive is set to OK,
and the PCS Receive process continuously accepts blocks.'.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.6.3** *P* **729** *L* **24** # 83

Zimmerman, George — CME Consulting, Inc.

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

Delete the subclause 55.3.6.3 'Messages', a subclause 55.3.6.2 'State diagram parameters' (comment 139 802.3bq 3rd WG recirc)
since for the following reasons there are not related to the state diagram.
[1] The message 'PMA_UNITDATA.indication' and the parameter 'rx_symb_vector' are not referenced in the PCS state diagrams.
The input to Figures 55-18 and 55-19 'PCS 64B/65B Receive state diagram' are 'rx_coded' which is the 'Input to decode function 65B block' in Figure 55-7 'PCS Receive bit ordering'. As
can be seen in that figure, there are a number of processes that have already been performed
on the parameter 'rx_symb_vector' from the message 'PMA_UNITDATA.request' before 'rx_coded' is presented as the input to the PCS state diagram.
[2] The message 'PMA_UNITDATA.request' and the parameter 'tx_symb_vector' are not referenced in the PCS state diagrams. The output of Figures 55-16 and 55-17 'PCS 64B/65B Transmit state diagram' are 'tx_coded' which is the 'Output of encoder function 65B
block' in Figure 55-6 'PCS transmit bit ordering'. As can be seen in that figure, there are a number of processes that have to be performed before the parameter 'tx_symb_vector' for the
message 'PMA_UNITDATA.request' is generated.
[3] 'PCS_status' is not a message, but instead a parameter of a message, regardless it is not
generated or used by the by the PCS state diagrams.

SuggestedRemedy

Delete the subclause 55.3.6.3 'Messages'.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.4.5.1** *P* **753** *L* **29** # 84

Zimmerman, George CME Consulting, Inc.

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

The definition for the 'link_control' variable states 'This variable is defined in 28.2.6.2' however
IEEE Std 802.3 subclause 28.2.6.2 defines the PMA_LINK.request primitive. (802.3bq 3rd WG recirc, comment 144)

SuggestedRemedy

Suggest that variable description be changed to read 'The link_control parameter generated by
Auto-Negotiation and passed to the PMA via the PMA_LINK.request primitive (see 55.2.1.1).

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.4.5.1** *P* **756** *L* **14** # 85

Zimmerman, George CME Consulting, Inc.

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

Missing PICS for mtc and stc (comment 185 on 2nd WG recirc 802.3bq)

SuggestedRemedy

Add PICS for mtc and stc. See clause 113 for text

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The variables mtc and stc are already covered by PICS item PMF15 for the PHY Control state diagram, the MASTER transition counter state diagram, and the SLAVE transition counter state diagram. The same is true for the equivalent items in 113.12.4 and 126.12.4.

In 113.12.4, delete PICS items PMF38 and PMF39.
In 126.12.4, delete PICS items PMF37 and PMF38.

Cl **55** *SC* **55.4.5.2** *P* **757** *L* **11** # 86

Zimmerman, George CME Consulting, Inc.

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

Missing PICS for lpi_refresh_rx_timer, link_fail_sig_timer, and fr_maxwait_timer. (comment 186 on 2nd WG recirc 802.3bq)

SuggestedRemedy

Add PICS as per comment. See clause 113 for text

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

[Editor's note: referenced comment should be comment 182 on 2nd WG recirc 802.3bq]

The timer lpi_refresh_rx_timer is already covered by PICS item PMF26 for the EEE Refresh monitor state diagram.
The timers link_fail_sig_timer and fr_maxwait_timer are already covered by PICS item PMF22 for the Fast retrain control state diagram.
The same is true for the equivalent items in 113.12.4 (where two of them have a Status of EEE:M instead of FR:M) and also the equivalent items in 126.12.4 (where all three incorrectly have a Status of M).

In 113.12.4, delete PICS items PMF42, PMF43, and PMF44.
In 126.12.4, delete PICS items PMF41, PMF42, and PMF43.

Also, in 55.12.4, item PMF26 "Refresh monitor state diagram" has a Value/Comment entry of "Implements state diagram of Figure 55-19", but Figure 55-19 is the "PCS 64B/65B Receive state diagram, part b". 55.4.2.7 also contains "The Refresh monitor shall comply with the state diagram of Figure 55-19."

Change both of these cross-references to Figure 55-32, which is the "EEE Refresh monitor state diagram"

Cl **55** *SC* **55.4.6.3** *P* **761** *L* **20** # 87

Zimmerman, George CME Consulting, Inc.

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

maxwait_time_done should be maxwait_timer_done (comment 228 on 2nd WG recirc 802.3bq)

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In Figure 55-31, change "maxwait_time_done" to "maxwait_timer_done"

Cl **55** *SC* **55.4.6.5** *P* **763** *L* **15** # 88

Zimmerman, George — CME Consulting, Inc.

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

"start_link_fail_sig_timer" should be "start link_fail_sig_timer" (comment 229 on 2nd WG recirc 802.3bq)

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In Figure 55-33, change "start_link_fail_sig_timer" to "start link_fail_sig_timer"

Cl **55** *SC* **55.12.6** *P* **806** *L* **11** # 89

Zimmerman, George — CME Consulting, Inc.

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

PME15 lists "Test mode 7 operations" as mandatory but there isnt any shall in this paragraph. (
Should there be? All other text in this subclause for the other 6 test modes have "shalls". (802.3bq 2nd WG recirc, comment 183)

SuggestedRemedy

Change last para. Of 55.5.2 P765 L38 from "This mode reuses the 10GBASE-T scrambler and is defined in detail in 55.3.3."
to read:
"This mode shall reuse the 10GBASE-T scrambler defined in detail in 55.3.3."

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.2** *P* **776** *L* **30** # 90

Zimmerman, George — CME Consulting, Inc.

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

"PMA_CONFIG.indicate" should be "PMA_CONFIG.indication" (to match the definition in 55.2.2.2). (802.3bq 2nd WG recirc, comment 230)

SuggestedRemedy

see comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 55.6.2 and 55.12.4 PMF36, change "PMA_CONFIG.indicate" to "PMA_CONFIG.indication"

Cl **55** *SC* **55.12.9** *P* **808** *L* **17** # 91

Zimmerman, George — CME Consulting, Inc.

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

Option INS is used, but not defined under options (802.3bq 2nd WG recirc comment 177)

SuggestedRemedy

Include option INS in 55.12.2, see 113.12.2 for text:
*INS Installation / cabling 113.7 O Yes [ ]No [ ] Items marked with INS include installation practices and cabling specifications not applicable to a PHY manufacturer

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add item "*INS" to the bottom of the table in 55.12.2 as:
"*INS", "Installation / cabling", "55.7", "O", "Yes [ ] No [ ]", "Items marked with INS include installation practices and cabling specifications not applicable to a PHY manufacturer"

Cl **21** *SC* **21.6.3** *P* **42** *L* **54** # 92

Hidaka, Yasuo — Fujitsu Lab. of America

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

The sixth column contains values and/or comments only up to clause 28. In clause 31 and higher, the fourth column contains values and/or comments.

SuggestedRemedy

Change "the sixth column" to "the fourth or sixth column".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In addition to the issue cited in the comment, the preceding paragraph states that "answers to the questionnaire items are to be provided in the right-most column" which doesn't always seem to be the case.

Replace the second two paragraphs of 21.6.3 with the following.

"The main part of the PICS proforma is a fixed-format questionnaire divided into subclauses, each containing a group of items. Each item is identified by an item reference in the first column. Additional columns contain the question to be answered, the reference or references to the material that specifies the item in the main body of the standard, values and/or comments pertaining to the question to be answered, and the status of the item (whether support is mandatory, optional, or conditional). Answers to the questionnaire items are to be provided in a column labeled "Support". This is done either by simply marking an answer to indicate a restricted choice (usually Yes, No, or Not Applicable) or by entering a value or a set or a range of values. There are some items where two or more choices from a set of possible answers can apply and all relevant choices are to be marked."

Cl **30** *SC* **30.5.1.1.18** *P* **443** *L* **8** # 93

Hidaka, Yasuo — Fujitsu Lab. of America

Comment Type **T** *Comment Status* **R** *bucket*

Each element of this array contains a count of uncorrectable FEC blocks, not corrected FEC blocks.
This error was corrected in P802.3bs TF by comment i-12 to P802.3bs D3.0. We may apply the same change.

SuggestedRemedy

Change "corrected" to "uncorrectable".

Response *Response Status* **C**

REJECT.

As noted in the comment, the proposed change has already been implemented in the draft amendment IEEE P802.3bs. The approved amendment, and consequently the proposed change, is anticipated to be incorporated into the revision draft during Sponsor ballot. In the event that IEEE P802.3bs is not approved in time for incorporation into the revision draft, the change may still be made via a comment during Sponsor ballot. It is preferred that this change not be made in this document at this time.

Cl **49** *SC* **49.2.4.9** *P* **493** *L* **28** # 94

Hidaka, Yasuo — Fujitsu Lab. of America

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

The phrase "within any character of the block" is misleading or incorrect, because "within any character" implicates "on any bit of character".

SuggestedRemedy

Change "within any character of the block" to "on any character within the block".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

[Editor's note: Page changed from 400 to 493]
Change:
"within any character of the block" to:
"on any character of the block".

Cl **55** *SC* **55.3.2.2.12** *P* **712** *L* **17** # 95

Hidaka, Yasuo — Fujitsu Lab. of America

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

The phrase "within any character of the block" is misleading or incorrect, because "within any character" implicates "on any bit of character".

SuggestedRemedy

Change "within any character of the block" to "on any character within the block".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:
"within any character of the block" to:
"on any character of the block".

Cl **81** *SC* **81.5.3.2** *P* **129** *L* **6** # 96

Hidaka, Yasuo — Fujitsu Lab. of America

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

The status of PL1 is "RS:M" that is mandatory when option RS is supported, but RS is mandatory, not optional.

Same for other PICS items in this clause.

SuggestedRemedy

Change "RS:M" to "M" in the status column, and remove "N/A []" in the support column.

Apply the same change to PL1 through PL13, DS1 through DS4, FS3, FS5, FS7, FS13, FS15, FS16, LF1 through LF5.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This comment and comment #97 are similar to comments #203 and #201 against P802.3bs D2.0 against the Clause 117 PICS which was derived from the Clause 81 PICS. Adopt a similar remedy as for the comments against Clause 117 above.

In 81.5.2.3, replace the rows for "*RS40" and "*RS100" with a single row for:
"*MII", "Reconciliation Sublayer support of either XLGMII or CGMII", "81.2, 81.3", blank, "O", "Yes [ ] No [ ]"

In 81.5.3.1, replace the rows for "G3" and "G4" with a single row for:
"G3", "Cumulative MAC Control, MAC and RS delay", "81.1.4", "Per Table 81-1", "MII:M", "Yes [ ] N/A [ ]"

In 81.5.3.2 to 81.5.3.5, replace "RS:" with "MII:"
In 81.5.3.4 replace "XGE:" with "MII:"

Cl **81** *SC* **81.5.3.4** *P* **130** *L* **22** # 97

Hidaka, Yasuo — Fujitsu Lab. of America

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

The status of FS1 is "XGE:M" that is mandatory when option XGE is supported, but option XGE is not defined.

SuggestedRemedy

Add an option XGE to 81.5.2.3 Major capabilities/options as follows:

Item: XGE
Feature: PHY support of either XLGMII or CGMII
Subclause: 81.2, 81.3
Value/Comment: blank
Status: O
Support: Yes [ ] No [ ]

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #96

Cl **82** *SC* **82.2.3.8** *P* **144** *L* **13** # 98

Hidaka, Yasuo — Fujitsu Lab. of America

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

The phrase "within any character of the block" is misleading or incorrect, because "within any character" implicates "on any bit of character".

SuggestedRemedy

Change "within any character of the block" to "on any character within the block".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:
"within any character of the block" to:
"on any character of the block".

Cl **82** *SC* **82.7.3** *P* **173** *L* **13** # 99

Hidaka, Yasuo — Fujitsu Lab. of America

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

Item XGE100 is CGMII logical interface, not XLGMII logical interface, because XGE40 is XLGMII logical interface.

SuggestedRemedy

Change "XLGMII" to "CGMII" in the row of XGE100.

Response *Response Status* **C**

ACCEPT.

Cl **91** *SC* **91.5.2.6** *P* **383** *L* **8** # 100

Hidaka, Yasuo — Fujitsu Lab. of America

Comment Type **T** *Comment Status* **R** *bucket*

The alignment marker payloads transmitted on FEC lane 1 should correspond to PCS lanes "1, 5, 9, 13, and 17" and not PCS lanes "0, 5, 9, 13, and 16".

SuggestedRemedy

Change "0, 5, 9, 13, and 16" to "1, 5, 9, 13, and 17".

Response *Response Status* **C**

REJECT.

The text on page 381, line 32 is:
"In addition it substitutes the fixed bytes of the alignment markers corresponding to PCS lanes 1, 2, and 3 with the fixed bytes for the alignment marker corresponding to PCS lane 0. Similarly, it substitutes the fixed bytes of the alignment markers corresponding to PCS lanes 17, 18, and 19 with the fixed bytes for the alignment marker corresponding to PCS lane 16. The variable bytes BIP or CD are unchanged. This process simplifies receiver synchronization since the receiver only needs to search for the fixed bytes corresponding to PCS lane 0 on each FEC lane. When the optional EEE deep sleep capability is supported, the receiver only needs to search for the fixed bytes corresponding to PCS lanes 0 and 16."
Hence the text being commented on is correct.

Cl **83D** SC **83D.3.3.2** P **619** L **46** # 101

Hidaka, Yasuo — Fujitsu Lab. of America

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

There are no such variables as "Request_eq_cm1" and "Request_eq_c1", but there are variables "Requested_eq_cm1" and "Requested_eq_c1" that indicate the "requested" values of Local_eq_cm1 and Local_eq_c1, respectively.

SuggestedRemedy

Change "Request_eq_cm1 and Request_eq_c1 indicate the request values" to "Requested_eq_cm1 and Requested_eq_c1 indicate the requested values".

Response *Response Status* **C**

ACCEPT.

Cl **83D** SC **83D.4** P **620** L **41** # 102

Hidaka, Yasuo — Fujitsu Lab. of America

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

C_b is not a COM parameter. It should be C_p.

SuggestedRemedy

Change "C_b" to "C_p".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement suggested remedy. In addition, apply the correct formating for symbols Cd, zp, Cb, Ro (should be R0), and Rd.

From the IEEE-SA Standards Style Manual, 15.3:
"Quantity symbols (including the symbols for physical constants), subscripts or superscripts representing symbols for quantities, mathematical variables, and indexes are set in italic text.
Unit symbols, mathematical constants, mathematical functions, abbreviations, and numerals are set in upright (Roman) text."

Cl **78** SC **78.5.1** P **56** L **44** # 103

Ran, Adee — Intel

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

The text here says "The LPI signaling can operate through the XGXS with no change to the PHY timing parameters described in Table 78-4 or the operation of the Data Link Layer Capabilities negotiation described in 78.4."

This is not true: the PHY timing parameters are changed, since the XGXS adds delays as specified in Table 78-4.

802.3bs used different text for the equivalent XS and it can be used here to correct the error.

SuggestedRemedy

Change to "The LPI signaling can
operate through the XGXS with the PHY timing parameters modified by inclusion of the XGXS as described in Table 78-4. There is no change in the operation of the Data Link Layer Capabilities negotiation described in 78.4".

Optionally add a table footnote to the XGXS row in Table 78-4 similar to footnote b.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace the first paragraph of 78.5.1 with the following.
"The XGXS can be inserted between the RS and a 10 Gb/s PHY to transparently extend the physical reach of the XGMII. The LPI signaling can operate through the XGXS with the LPI timing parameters modified as described below."

Cl **78** *SC* **78.5.2** *P* **57** *L* # 104

Ran, Adee Intel

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

The text here says "The LPI signaling can operate across these interfaces with no change to the PHY timing parameters described in Table 78-4 or the operation of the Data Link Layer Capabilities negotiation described in 78.4."

This is not true: the PHY timing parameters are changed, since the AUIs add delays as specified in Table 78-4 footnote b.

SuggestedRemedy

Change to "The LPI signaling can
operate across these interfaces with the PHY timing parameters modified as described in Table 78-4 footnote b. There is no change in the operation of the Data Link Layer Capabilities negotiation described in 78.4".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace the contents of 78.5.2 with the following.
"25GAUI, XLAUI, CAUI-10, and CAUI-4 may be used as physical instantiations of the inter-sublayer service interface to separate functions between devices. The LPI signaling can operate through these interfaces with the LPI timing parameters modified as described below.

If PMA Egress AUI Stop Enable (PEASE, see 83.3; MDIO register bit 1.7.8) is asserted for any of the PMA sublayers, the PMA may stop signaling on the AUI in the transmit direction to conserve energy. If PEASE is asserted, the RS defers sending data following deassertion of LPI by an additional time equal to Tw_sys_tx for the AUI as shown in Table 78-4 for each PMA with PEASE asserted (see 81.4.2).

If PMA Ingress AUI Stop Enable (PIASE, see 83.3; MDIO register bit 1.7.9) is asserted for any of the PMA sublayers, the PMA may stop signaling on the AUI in the receive direction to conserve energy. The receiver should negotiate an additional time for the remote Tw_sys equal to Tw_sys_tx for the AUI as shown in Table 78-4 for each PMA with PIASE to be asserted before setting the PIASE bits."

Cl **78** *SC* **78.6.3** *P* **59** *L* # 105

Ran, Adee Intel

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

There is no PICS item for normative requirement to support fast wake TLV for 40G and above (P42 L26).

SuggestedRemedy

Add appropriate item(s) to the table.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following row to 78.6.3 "Major capabilities/options" after the row for item "10G".
*40G | Support 40G or higher operation | 78.4 | Support for 40 Gb/s or higher operation | O | Yes [], No []

Also change the item label in 78.6.3 from "10G" to "*10G".

Add the following row to 78.6.4 "DLL requirements" before the row for item "DLR1" and renumber accordingly.
DLR1 | Fast Wake TLV | 78.4 | Support EEE Fast Wake TLV defined in 79.3.6 | 40G:M | Yes [], N/A []

Cl **79** *SC* **79.3.1.4** *P* **63** *L* **30** # 106

Ran, Adee Intel

Comment Type **T** *Comment Status* **R**

This subclause title refers to "rules".

The only rule here is "An LLDPDU should contain no more than one MAC/PHY Configuration/Status TLV."

As written, this is not a rule but rather a recommendation, and an unclear one. There is no information to implementors on what to do if a received LLDPDU does contain more than one TLV of the same type. If two TLVs contain different information then there is ambiguity in the interpretation.

Looking at the meaning of this TLV, there is no sense in sending more than one, especially if the information in two TLVs within the same LLDPDU is different.

In the PICS this appears as an option (status "O"), which is even more confusing; "should" is a recommendation, not an option ("may" is an option).

It seems that this "should" should be a "shall" and the PICS status should be "M".

Same comment applies in multiple subclauses within clause 79.

SuggestedRemedy

Change "should" to "shall" here and in ths similar subclauses of clause 79, and update the PICS tables accordingly.

Optionally, add a note that previous revisions of this standard had a recommendation instead of a normative requirement (with editorial license).

Response *Response Status* **C**

REJECT.

Clause 79 defines seven 802.3 subtypes, one of which is deprecated. For all seven, there is a subclause that states that an LLDPDU "should" contain no more than one TLV of that type. All of them except for the EEE Fast Wake TLV has a corresponding PICS item that is "O".

IEEE Std 802.1AB-2016, 9.2.7.7.2 "General validation rules for all TLVs" contains the following note:

"NOTE-Usage rules for individual TLVs allow some TLVs to appear more than once in an LLDPDU. Duplicate TLVs result in any one of the values being placed in the MIB, can cause the discard stats to increment, and can cause the change marker for the MIB entry to change if any of the TLV copies change the value even if the value finally recorded is unchanged. The only thing guaranteed is that the MIB value is set to one (unspecified) of the TLV values, and if that value is different to what was previously in the MIB then the change marker is set."

Changing "should" to "shall" would invalidate some implementations that send more than one TLV of the same type in an LLDPDU.

Cl **80** *SC* **80.1.3** *P* **82** *L* **30** # 107

Ran, Adee Intel

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

The XLGMII and CGMII may also be implemented with data-path width other than 64 bits for implementation convenience. (Running 100 Gb/s over 64-bit wide bus is likely challenging and not a typical implementation).

The 25G introduction does not list the 25GMII as an exception (see 105.1.2). The 10G introduciton (44.1.4) does list XGMII, but only when it is a physical observable interface.

The remedy used in 802.3bs (116.1.2) may also be used here.

SuggestedRemedy

Append to list item a:

"Physical instantiations of these interfaces may use other data-path widths."

Alternatively, delete item a.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the same wording as for 116.1.3 (P802.3bs) and 131.1.2 (P802.3cd).

Add "Physical instantiations of this interface may use other data-path widths." to the end of item a).

Cl **85** *SC* **85.8.3.3** *P* **232** *L* **53** # 108

Ran, Adee Intel

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

"must" here should really be a "shall", it is not an unavoidable situation.

SuggestedRemedy

Change to "shall".

Response *Response Status* **C**

ACCEPT.

Cl **85** SC **85.8.3.3** P **233** L **1** # 109

Ran, Adee Intel

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

The text here defines "The normalized amplitude" of the three coefficients, but subclause 85.8.3.3.1 refers to the coefficients themselves (not normalized amplitudes), while 85.8.3.3.2 refers to normalized amplitudes, and 85.8.3.3.3 again does not. Since these four subclauses all discuss the same coefficients, this can be quite confusing for the reader.

There is no reason to call this a normalized amplitude of the coefficient; it is really the coefficient value. (a coefficient has no amplitude, and "normalized amplitude" is used for very different things elsewhere).

This comment also applies in 92.8.3.5.1 through 92.8.3.5.4.

SuggestedRemedy

Change "The normalized amplitude of coefficient c(-1) is the value of" to "Coefficient c(-1) is defined as the value of". Change similarly for the other coefficients.

In 85.8.3.3.2, delete the 3 instances of "the normalized amplitude of".

Apply similarly in clause 92.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The coefficients are in fact normalized but this distinction has little value in the interpretation and application of the standard. For the sake of consistency, make the following changes.

Change the last paragraph of 85.8.3.3 to the following.
"Coefficient c(-1) is defined to be the value of qi at time t0 + (Dp - 1) UI. Coefficient c(0) is defined to be the value of qi at time t0 + Dp UI. Coefficient c(1) is defined to be the value of qi at time t0 + (Dp + 1) UI."

In the first paragraph of 85.8.3.3.2, remove two instances of "the normalized amplitude of coefficient".

In the first sentence of the second paragraph of 85.8.3.3.2, remove "the normalized amplitude of".

In 92.8.3.5.1, change all instances of "normalized coefficients" to "coefficients" and all instances of "normalized transmit equalizer coefficients" to "transmit equalizer coefficients".

In the first paragraph of 92.8.3.5.4, remove two instances of "the normalized amplitude of coefficient".

In the first sentence of the second paragraph of 92.8.3.5.4, remove "the normalized amplitude of".

Cl **85** SC **85.8.3.3.3** P **233** L **27** # 110

Ran, Adee Intel

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

There are no restrictions in this clause on the "minimum steady state differential output voltage" and "maximum steady state differential output voltage" - since these parameters are not defined.

The corresponding parameter is "Transmitter DC amplitude" but it is only specified for unequalized state (see 85.8.3.3, paragraph after item 6). In other settings, the output voltage with a long run is governed by c(0)+c(-1)+c(1) and in fact there is no specification for a minimum value of that in clause 85 (unlike clause 72).

As stated, this is an aspect of the implemented coefficient range. But the limits are also based on combinations of all coefficients (e.g. their absolute sum is no larger than unity).

This comment also applies to 92.8.3.5.5 (where there are restructions on minimum steady-state voltage, but only in preset state) and 93.8.1.5.5, which re-used the same text.

The suggested remedy is based on the text in clause 136.

SuggestedRemedy

Change
"based on the coefficient range or restrictions placed on the minimum steady state differential output voltage or the maximum peak-to-peak differential output voltage"

To
"based on the range of that coefficient or the combination of coefficients."

Alternatively, change to "based on the coefficient range or restrictions on the maximum peak-to-peak differential output voltage".

Apply also in clauses 92 and 93.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the first paragraph of 85.8.3.3.3, 92.8.3.5.5, and 93.8.1.5.5 to the following.
"When sufficient "increment" or "decrement" requests have been received for a given coefficient, the coefficient will reach a lower or upper bound based on the range of that coefficient or the combination of coefficients."

Cl **85** SC **85.8.4.2.1** P **240** L **9** # 111

Ran, Adee Intel

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

Typo in figure text: "PCG"

SuggestedRemedy

Change to "PGC"

Response *Response Status* **C**

ACCEPT.

Cl **85** SC **85.8.3.4** P **235** L **34** # 112

Ran, Adee Intel

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

Tab positions are incorrect, creating no white space after "Insertion_loss(f)" and incorrect tabulation. This repeats in many other equations in this clause.

SuggestedRemedy

Reformat to create correct tabulation. Apply in all equations in this clause.

Response *Response Status* **C**

ACCEPT.

Cl **91** SC **91.5.2.7** P **384** L **1** # 113

Ran, Adee Intel

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

Equation is truncated from above

SuggestedRemedy

Fix it

Response *Response Status* **C**

ACCEPT.

Cl **92** SC **92.7.8** P **416** L **32** # 114

Ran, Adee Intel

Comment Type **T** *Comment Status* **R** *bucket*

Loopback is not a PMD function (as noted in the text). It may be considered a PHY function, but in this case, the wording "adjacent PMA" is inappropriate.

This subclause may be considered out of place. There is no loopback subclause in optical PMDs. In 802.3cd it was decided not to have a loopback subclause in the electrical PMDs. If the NOTEs are considered important, they can be moved to the appropriate subclause in the PMA clause.

Also applies in similar subclauses of 93, 110, and 111.

SuggestedRemedy

Change "adjacent PMA" to "PMA".

Consider deleting this subclause and moving the notes to the appropriate PMA clauses.

Response *Response Status* **C**

REJECT.

The clause defines the "Physical Medium Dependent (PMD) sublayer and baseband medium, type ...". The PMD must have an "adjacent" PMA (in that you cannot connect the PCS/FEC directly to the PMD).

The text is correct and perhaps helpful to a user of the standard looking for a "PMD loopback function".

Cl **92** SC **92.10.7.1** P **437** L **1** # 115

Ran, Adee Intel

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

Equation (92-31) uses the cascade() function, which is only defined in annex 93A, but there is no cross reference.

Comment also applies to 92.10.7.2.

SuggestedRemedy

Append to the first paragraph of 92.10.7:

"The channel path calculations use the function cascade() defined in 93A.1.2.1."

Alternatively, add a definition of cascade() (refernce to 93A.1.2.1) in the "where" text following equations 92-31, 92-32, and 92-33.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following sentence to the end of the first paragraph of 92.10.7.
"The signal path definitions include the function cascade() defined in 93A.1.2.1."

Cl **93A** SC **93A.2** P **696** L **35** # 116

Ran, Adee Intel

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

The parameter beta was added to equation 93A-46 to fix an error (missing factor 2) in the original equation. With the current quation, correct accounting for transition time requires that beta be 2 and this should be stated explicitly by every clause that invokes COM.

This equation is used with the default beta=1 only in two cases - when 93C.2 is invoked by either 93.8.2 or 83D.3.3.1, which do not state a value for beta This creates an incorrect calibration of the text, that would better be fixed.

In all other cases, beta is specified as 2.

Even if we prefer not to change existing clauses, It would be better to use a correction factor in the exception, not in the normal case.

SuggestedRemedy

[Option 1]
If we agree to apply a change that would fix the incorrect calculation in clause 93 and annex 83D:
In equation 93A-46, change beta to 2, and in the paragraph above it delete "beta is 1 unless defined otherwise for the Physical Layer specification that invokes this method"

Remove beta from all references to this equation (in clauses 110, 111, and in clauses of new amendments that are added to this revision).

[Option 2]
If we keep the clause 93 and annex 83D calculation unchanged:
Change "beta is 1 unless defined otherwise for the Physical Layer specification that invokes this method" to "beta is 2 unless defined otherwise for the Physical Layer specification that invokes this method", and add exceptions to use beta=1 in 83D.3.3.1 and in 93.8.2.3.

Remove beta from the other references to this equation (in clauses 110, 111, and in clauses of new amendments that are added to this revision).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Equation (93A-46) incorrect in IEEE Std 802.3-2015. The amendment IEEE Std 802.3by-2016 added the term <beta> to correct this error without altering the Clause 92, Clause 93, or Annex 83D requirements. For these clauses, Equation (93A-46) is only used for the calibration of the broadband noise amplitude applied during interference tolerance testing. For this application, setting <beta> = 1 is equivalent to reducing the rise/fall time parameter T_r by a factor of 1/sqrt(2). This more likely than not results in a higher calibrated broadband noise amplitude. Therefore, it is likely that correcting the equation will have no impact on the compliance of devices deployed in the field.

In 93A.2, remove the following phrase from the end of the fifth paragraph.
"...and <beta> is 1 unless defined otherwise for the Physical Layer specification that invokes this method."

In Equation (93A-46), change "<beta>" to "2".

Equation (92-22) copied the original Equation (93A-46) and inherited the same error. Change Equation (92-22) to add "2" between the minus sign and the open bracket of the squared term (i.e., "exp(-2(<pi>f.").

In Section 7, 110.8.4.2.3, remove the phrase "<beta> is 2 and" from the second sentence of item d).

In Section 7, 110.10.7, remove the phrase "and <beta> is 2" from the second sentence of the first paragraph.

In Section 7, 111.8.3.1, change the second sentence of item c) to the following.
"The filtered voltage transfer function H(k)(f) calculated in Equation (93A-19) uses the filter Ht(f) defined by Equation (93A-46) where Tr is calculated as Tr = 1.09 x Trm - 4.32 ps and Trm is the measured 20% to 80% transition time of the signal at TP0a."

In Section 7, 111.9, remove the phrase "and <beta> is 2" from the second sentence of the first paragraph.

Cl **98** *SC* **98.1.2** *P* **207** *L* **17** # 117

Ran, Adee Intel

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

In Figure 98-2 the AN sublayer is labeled "AN2". Amd GMII is labeled "GMII1"

The numbers refer to tne notes and should be in superscript (see Figure 91-7).

SuggestedRemedy

Change the format of these numbers to superscript.

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.1.1.3** *P* **209** *L* **36** # 118

Ran, Adee Intel

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

This text specifies "bit sequence" with the numebrs +1 and -1. But a "bit" has a value of either 0 or 1; DME is an mapping of bits to electrical sequence, not to other bits.

To add to the confusion, later it says "an end delimiter that consists of a logical 0 bit". But according to Figure 98-6 the end delimiter is an electrical zero, not a logical zero (which isn't defined)

SuggestedRemedy

Change "bit sequence" to "sequence".

Change "logical 0 bit" to "electrical 0" or "zero voltage".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "bit sequence" to "sequence".

Change "logical 0 bit" to "electrical 0".

Cl **98** *SC* **98.2.4.3.2** *P* **215** *L* **44** # 119

Ran, Adee Intel

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

"Will" is used here as a normative requirement. The next paragraph uses "shall" in a similar context.

SuggestedRemedy

Change "will" to "shall"

Response *Response Status* **C**

ACCEPT.

[Editor's note: Page number changed to 215.]

Cl **98** SC **98.5.1** P **220** L **33** # 120
Ran, Adee Intel

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

link_control and link_status are per PMD/PMA. They appear with _[HCD] in Figure 98-7, so should be defined with a suffix _[x].

SuggestedRemedy

Append _[x] to the variable names.

Response *Response Status* **C**

ACCEPT.

Cl **99** SC **99.1** P **239** L **52** # 121
Ran, Adee Intel

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

The text here is taken from 802.3br which was an amendment, but now it is a revision of the standard.

SuggestedRemedy

Change "this amendment" to "this standard".

Check whether this footnote is still correct and relevant.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the footnote.

Cl **105** SC **105.1.2** P **561** L **13** # 122
Ran, Adee Intel

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

Isolated numbers in the text should be spelled out. The text "4 lane" is also inconsistent with the rest of this list.

SuggestedRemedy

Change "4 lane" to "four-lane".

Response *Response Status* **C**

ACCEPT.

Cl **105** SC **105.4.3.1.2** P **566** L **44** # 123
Ran, Adee Intel

Comment Type **E** *Comment Status* **R** *bucket*

This is a general service interface definition, it does not refer to a specific sublayer.

Also applies to 105.4.3.2, 105.4.3.2.2, 105.4.3.3, 105.4.3.3.1, 105.4.3.3.2.

SuggestedRemedy

Change "The sublayer continuously sends" to "A sublayer continuously sends", here and in the other subclauses

Response *Response Status* **C**

REJECT.

"The sublayer" is not inappropriate wording here because the text is referring to the particular sublayer that is generating the requests.

Cl **110** SC **110.10.7.1.1** P **640** L **7** # 124
Ran, Adee Intel

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

Equations 93A-13 and 93A-14 should be used with PCB parameters replacing package parameters. This is stated in 110.10.7.1 but omitted here.

Also applies in 110.10.7.1.2.

SuggestedRemedy

Insert ", and the parameter
values given in Table 92-12" before "representing an insetion loss", here and in 110.10.7.1.2.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the second sentence of 110.10.7.1.1 to:
"The transmitter and receiver PCB signal paths are both denoted as S(HOSP) and are calculated from Equation (93A-13) and Equation (93A-14) using the parameter values given in Table 92-12 and zp = 151 mm, representing an insertion loss of
6.26 dB at 12.8906 GHz on each PCB."

Change the second sentence of the second paragraph of 110.10.7.1.2 to:
"The aggressor transmitter host PCB model is denoted as S(HOTxSP) and is calculated from Equation (93A-13) and Equation (93A-14) using the parameter values given in Table 92-12 and zp = 72 mm, representing an insertion loss of 3 dB at 12.8906 GHz."

Cl **69B** *SC* **69B.4.3** *P* **818** *L* **47** # 125

Healey, Adam — Broadcom Ltd.

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

Typo "expresssed".

SuggestedRemedy

Change to "expressed".

Response *Response Status* **C**

ACCEPT.

Cl **69B** *SC* **69B.4.6.4** *P* **823** *L* **52** # 126

Healey, Adam — Broadcom Ltd.

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

Typo "characteristcs".

SuggestedRemedy

Change to "characteristics".

Response *Response Status* **C**

ACCEPT.

Cl **82** *SC* **82.7.4** *P* **174** *L* **8** # 127

Anslow, Pete — Ciena

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

The PICS proforma tables in 82.7.4 do not have the appropriate entries in trhe "Support" column.
Same issue in 79.5.6, 83.7, 84.11, 85.13, 86.11.3, 89.11.4.3, 92.14, 93.11.3, 94.6.4.2, 83A.7, 83D.6.4, 126.12.3

SuggestedRemedy

In 82.7.4, 79.5.6, 83.7, 84.11, 85.13, 86.11.3, 89.11.4.3, 92.14, 93.11.3, 94.6.4.2, 83A.7, 83D.6.4, and 126.12.3 for items with status of:
"M" change the Support entry to "Yes [ ]"
"O" change the Support entry to "Yes [ ] No [ ]"
"Something:M" change the Support entry to "Yes [ ] N/A [ ]"
"Something:O" change the Support entry to "Yes [ ] No [ ] N/A [ ]"

Response *Response Status* **C**

ACCEPT.

Cl **87** *SC* **87.8.3** *P* **307** *L* **13** # 128

Dawe, Piers — Mellanox Technologies

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

IEC 61280-1-3 (2010) is sufficient and we should use only international standards where they are available and adequate. IEC 61280-1-3 (2010) has a measurement definition for SMSR, and anyway, "TIA/EIA-455-127-A" would be "TIA-455-127-A".

SuggestedRemedy

Delete "TIA/EIA-455-127-A or" here (and TIA-455-127-A in the PICS 87.13.4.5).
Change subclause title from "Wavelength" to "Wavelength and sidemode suppression ratio (SMSR)". Add new second sentence "The sidemode suppression ratio (SMSR) of each optical lane shall be within the limits given in Table 87-7 if measured according to IEC 61280-1-3." Add PICS if wished (redundant with 87.13.4.3, 87.13.4.4).
Similarly in clauses 88, 89 and other maintained clauses with SMSR specs such as 52.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The methods defined for measuring RMS spectral width in 7.2 of TIA-455-127-A-2006 and 8.5 of IEC 61280-1-3:2010 are essentially the same.
The method defined for measuring "Center (Mean) Wavelength" in 7.1 of TIA-455-127-A-2006 is essentially the same as that for measuring "Centroidal wavelength" in 8.3 of IEC 61280-1-3:2010. However, IEC 61280-1-3:2010 also contains 8.2 "Centre wavelength", which has two subclauses 8.2.2 "Continuous LED spectra" and 8.2.2 "Discrete MLM spectra". The method for measuring center wavelength for MLM lasers in 8.2.2 is different from that for measuring center wavelength in the TIA document and involves drawing lines between the tips of adjacent modes and another line 3 dB below the top of the largest mode and finding the wavelength mid way between the furthest points where these lines cross each other.

There is a note at the end of 1.3 that says "NOTE-Local and national standards such as those supported by ANSI, EIA, MIL, NFPA, and UL are not a formal part of this standard except where no international standard equivalent exists."

Also, although several optical PMD clauses contain requirements for SMSR, none of them define it or state how to measure it.

In 38.6.1, 38.12.4.5 OR2, 58.7.2, 58.10.3.5 OM3, 59.7.2, 59.10.3.5 OM3, 86.8.4.1, and 86.11.4.4 SOM2:
change "TIA-455-127-A" to "the centroidal wavelength and RMS spectral width definitions in IEC 61280-1-3"

In 86.8.4.1, change "The wavelength of each optical lane" to "The wavelength and spectral width of each optical lane"
In 86.11.4.4 SOM2 change "Center wavelength" to "Center wavelength and spectral width"

Since the center wavelength measurement method in TIA-455-127-A-2006 is contained in IEC 61280-1-3:2010, in 87.8.3, 88.8.2, 88.12.4.5 COM2, 89.7.3, 95.8.2, 95.12.4.4 COM2,

112.7.2, and 112.11.4.4 COM2:
delete "TIA/EIA-455-127-A or"

In 87.13.4.5 XLOM2 and 89.11.4.4 XLOM2:
delete "TIA-455-127-A or"

In 52.9.2
change the subclause title to "Center wavelength, spectral width, and side mode suppression ratio (SMSR) measurements"
change "The center wavelength and spectral width (RMS) shall" to "The center wavelength, spectral width (RMS), and SMSR shall"
change "TIA-455-127-A" to "the centroidal wavelength, RMS spectral width, and SMSR definitions in IEC 61280-1-3"
Replace the em-dash with a cross-reference to this subclause from the "Test-pattern definitions and related subclauses" table SMSR row, Related subclause column.

In 52.15.3.9 OM2
change "Center wavelength and spectral width measurement" to "Center wavelength, spectral width, and SMSR measurement
change "TIA-455-127-A" to "the centroidal wavelength, RMS spectral width, and SMSR definitions in IEC 61280-1-3"

In 60.9.2
change the subclause title to "Wavelength, spectral width, and side mode suppression ratio (SMSR) measurements"
change "The wavelength and spectral width (RMS) shall meet specifications according to TIA-455-127-A" to "The wavelength, spectral width (RMS), and SMSR shall meet specifications according to the centroidal wavelength, RMS spectral width, and SMSR definitions in IEC 61280-1-3"

In 60.12.4.10 OM2 and 75.10.4.17 OM2
change "Wavelength and spectral width" to "Wavelength, spectral width, and SMSR"
change "TIA-455-127-A" to "the centroidal wavelength, RMS spectral width, and SMSR definitions in IEC 61280-1-3"

In 75.7.4
change the subclause title to "Wavelength, spectral width, and side mode suppression ratio (SMSR) measurement"
change "The center wavelength and spectral width (RMS) shall meet the specifications when measured according to TIA-455-127-A" to "The center wavelength, spectral width (RMS), and SMSR shall meet the specifications when measured according to the centroidal wavelength, RMS spectral width, and SMSR definitions in IEC 61280-1-3"
Replace the em-dash with a cross-reference to this subclause from Table 75-12 "Test-patterns" SMSR row, Related subclause column.

In 87.8.3, 88.8.2, 89.7.3
change the subclause title to "Wavelength and side mode suppression ratio (SMSR)"
in the text change "wavelength" to "wavelength and SMSR"
Replace the em-dash with a cross-reference to this subclause from the "Test-pattern definitions and related subclauses" table SMSR row, Related subclause column.

In 87.13.4.5 XLOM2, 88.12.4.5 COM2, and 89.11.4.4 XLOM2:
change "Center wavelength" to "Center wavelength and SMSR"

Cl **1** *SC* **1.4.419** *P* **93** *L* **21** # 129

Dawe, Piers — Mellanox Technologies

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

We should use only international standards where they are available and adequate. IEC 61280-1-3 (2010) has a clear definition of RMS spectral width.

SuggestedRemedy

Change "A measure of the optical wavelength range as defined by TIA 455-127-A (FOTP-127-A)." to "A measure of the optical wavelength range as defined by IEC 61280-1-3." or "The square root of the second moment of the power distribution about the centroidal wavelength of an optical signal. (See IEC 61280-1-3.)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the definition of "RMS spectral width" to "A measure of the optical wavelength range as defined by IEC 61280-1-3."

Cl **1** *SC* **1.3** *P* **64** *L* **21** # 130

Dawe, Piers — Mellanox Technologies

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

This reference may become unnecessary.

SuggestedRemedy

If we turn all the references to TIA-455-127-A into references to IEC 61280-1-3, remove this entry "TIA-455-127-A-2006, FOTP-127-A, Basic Spectral Characterization of Laser Diodes." but move footnote 23 to the next item.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove normative reference "TIA-455-127-A-2006, FOTP-127-A, Basic Spectral Characterization of Laser Diodes." and move footnote 23 to "TIA TSB-155-A-2010, ...".

With regard to the replacement of references to TIA-455-127-A-2006 with [equivalent] references to IEC 61280-1-3, see comment #128.

Cl **94** *SC* **94** *P* **487** *L* **4** # 131

Dawe, Piers — Mellanox Technologies

Comment Type **T** *Comment Status* **R**

100GBASE-KP4's time has passed.

SuggestedRemedy

Deprecate Clause 94 with the usual wording: NOTE--This PHY is not recommended for new installations. Since xxx 201x, maintenance changes are no longer being considered for this clause.

Response *Response Status* **C**

REJECT.

100GBASE-KP4 (Clause 94) was part of amendment IEEE Std 802.3bj-2014. As this was published just 3 years ago, it seems premature to "deprecate" the clause. This may be reconsidered in future revisions.

Cl **93A** *SC* **93A.1** *P* **687** *L* **32** # 132

Dawe, Piers — Mellanox Technologies

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

The parameter called "Continuous time filter, zero frequency f_z" causes confusion because it isn't a zero frequency except when g_DC is zero, when it isn't interesting. Unlike "Continuous time filter, pole frequencies fp_1 fp_2" which really are pole frequencies. See Eq 93A-22. Further, the value of f_z in each COM table is the same as f_p1 in the same table.

SuggestedRemedy

If we might use f_z in a future specification, rename it to "Continuous time filter, zero parameter f_z0" in each COM table and Eq 93A-22. If that is not likely, remove the rows in the COM tables, and change f_z to f_p1 in Eq 93A-22.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

It is true that, based on Equation (93A-22), the effective zero frequency is not f_z but rather f_z*10^(g_DC/20).

It is impossible to know whether or not f_z will equal f_p1 for all future specifications. Rather than set f_z to f_p1 and impose this as a constraint, change the name of f_z to be "Continuous time filter, zero frequency for g_DC = 0" in Table 93-8, Table 94-17, Table 83D-6, Table 93A-1, Table 110-11, and Table 111-8.

Cl **A** *SC* **A** *P* **563** *L* **8** # 133

Dawe, Piers — Mellanox Technologies

Comment Type **E** *Comment Status* **R** *bucket*

The pdf bookmarks show titles of clauses but not of annexes

SuggestedRemedy

Change the layout of the titles of annexes so that their titles appear in the bookmarks, e.g. by putting "(normative)" after the title rather than before.

Response *Response Status* **C**

REJECT.

The layout of the annex titles complies with the IEEE-SA Standards Style manual. Refer to <https://development.standards.ieee.org/myproject/Public/mytools/draft/styleman.pdf>, 10.8.

The current practice is to manually edit the PDF bookmarks to merge the annex number and title. Since this is a labor-intensive process, it is deferred to preparation for publication.

Cl **92** *SC* **92.8.4.4** *P* **428** *L* **37** # 134

Dawe, Piers — Mellanox Technologies

Comment Type **T** *Comment Status* **R** *bucket*

Should some of the improvements that 802.3by made be taken back to clauses 92 and 93?

SuggestedRemedy

Response *Response Status* **C**

REJECT.

There is no suggested remedy. The comment resolution group cannot understand the specific changes that would satisfy the commenter.

Cl **92** *SC* **92.8.4.4** *P* **429** *L* **17** # 135

Dawe, Piers — Mellanox Technologies

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

The text in 92.8.4.4.3 says "... should be set to the value that results in the COM value given in Table 92-8 when calculated". So these table entries for COM are reference or target values for setting up the test, like most of the other entries in this table. They can't be maxima (allowing any lower value) because then any receiver could be made to fail, however good it is.

SuggestedRemedy

Delete "(max)" from after "COM". Add it after "RS-FEC symbol error ratio"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement the suggested remedy. In addition, add the following table footnote to the "COM" parameter label.

"The COM value is the target for the far-end aggressor amplitude calibration defined in 92.8.4.4.3 step d). The far-end aggressor amplitude should be as close as practical to the value needed to produce the target COM. If higher amplitude values are used, this would demonstrate margin to the specification but this is not required for compliance."

Note that footnote a) states that "the FEC symbol error ratio is measured in step 11 of the receiver interference tolerance method defined in 93C.2." However, there is no step 11 in 93C.2. Change "step 11" to "step 10" in the footnote.

Cl **93** *SC* **93.8.2.3** *P* **474** *L* **41** # 136

Dawe, Piers — Mellanox Technologies

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

The text in 93C.2 items 7 and 8 say "determine the receiver noise level, sigma_bn, required to achieve the COM value specified in the PMD clause that invokes this method" and "adjust it so that it equals sigma_bn determined in step 7.". So these table entries for COM are reference or target values for setting up the test. They can't be maxima (allowing any lower value) because then any receiver could be made to fail, however good it is. Table 83D-5 has got it right.

SuggestedRemedy

Show that they are not maxima, e.g. by straddling the min and max columns or using a "Target" columns. Similarly for tables 110-6, 110-7, 110-8, 111-4, 111-5, 111-6 and 94-15.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The addition of a "target" column would increase the table size and this is not desirable for the larger tables (e.g., Table 93-6). Therefore, the option of "straddling" the "Min" and "Max" columns is preferred even though this will be inconsistent with the format of Table 83D-5.

In Table 93-6, Table 111-4, and Table 111-5, straddle the "Min" and "Max" columns for the "COM" row and place the contents of the "Max" column into the straddled column. Add the following table footnote to the "COM" parameter label.

"The COM value is the target for the receiver noise level calibration defined in 93C.2 step 7. The channel noise voltage applied in 93C.2 step 8 should be as close as practical to the value needed to produce the target COM. If higher channel noise voltage values are used, this would demonstrate margin to the specification but this is not required for compliance."

The format of Table 94-15 must be modified prior to straddling the "Min" and "Max" columns for COM.
1. Remove "Test channel parameters:" line and define "COM, .", "Insertion loss .", and "RSS_DFE4" as separate rows.
2. Organize "a0", "a1", "a2", "a3" into its own row inserting the line "Fitted insertion loss coefficients:" at the top. Move table footnote "c" to this new line.
3. Add ruling to visually separate the rows.

These changes are expected to make the table easier to parse when the "Min" and "Max" columns of the "COM" row are straddled. Apply the same changes to the modified table that were specified for Table 93-6 et al.

In Table 110-6, Table 110-7, and Table 110-8, straddle the "Min" and "Max" columns for the "COM" row and place the contents of the "Max" column into the straddled column. Add the following table footnote to the "COM" parameter label.

"The COM value is the target value for the SNR_TX calibration defined in 110.8.4.2.3 item f). The SNR_TX value measured at the Tx test reference should be as close as practical to

the value needed to produce the target COM. If lower SNR_TX values are used, this would demonstrate margin to the specification but this is not required for compliance."

Cl **83D** *SC* **83D.4** *P* **620** *L* **29** # 137

Dawe, Piers — Mellanox Technologies

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

One of these tables has a different title to the others (and one doesn't say "values" because it lists the parameters not the values - that's OK):
Table 83D-6--Channel Operating Margin parameters
Table 93-8--COM parameter values
Table 93A-1--COM parameters
Table 110-11--COM parameter values
Table 111-8--COM parameter values

SuggestedRemedy

Change Table 83D-6--Channel Operating Margin parameters
to Table 83D-6--COM parameter values
or change three to Channel Operating Margin parameter values, 93A-1 to Channel Operating Margin parameters

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the title of Table 83D-6 from "Channel Operating Margin parameters" to "COM parameter values".

Cl **92** *SC* **92.8.3** *P* **419** *L* **25** # 138

Dawe, Piers — Mellanox Technologies

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

To make the document easier to use (finding spec items using string search), please include the initialisms in tables and in subclause headings, as the optical clauses do for OMA, TDP, SMSR and so on.

SuggestedRemedy

Add "(SNDR)" here and in tables 93-4, 83D-1 and 94-13.
Consider changing
92.8.3.7 Transmitter output noise and distortion
to 92.8.3.7 Signal-to-noise-and-distortion ratio (SNDR)
so that the term appears in the contents: similarly for 93.8.1.6 and 94.3.12.7.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In Table 92-6, Table 94-13, and Table 83D-1 change "Signal-to-noise-and-distortion ratio (min.)" to "Signal-to-noise-and-distortion ratio, SNDR (min.)".

Change the heading of 92.8.3.7, 93.8.1.6, and 94.3.12.7 from "Transmitter output noise and distortion" to "Transmitter signal-to-noise-and-distortion ratio (SNDR)".

Cl **86** *SC* **86.5.7** *P* **272** *L* **44** # 139

Dawe, Piers — Mellanox Technologies

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

Function names don't have underscores like this (see line 42), although functional variable names do.

SuggestedRemedy

If the function names (as opposed to the variable names or MDIO register names) must match across clauses, change "The PMD_global_transmit_disable function" to "The PMD global transmit disable function". If not, change it to "The PMD transmit disable function". Similarly in 52.4.7, 53.4.7, 68.4.7, 87.5.7, 88.5.7, 89.5.6, 95.5.7, 112.5.6.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #142

Cl **86** *SC* **86.5.7** *P* **272** *L* **50** # 140

Dawe, Piers — Mellanox Technologies

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

the PMD may set the PMD_global_transmit_disable to one

SuggestedRemedy

the PMD may set the PMD_global_transmit_disable variable to one
or
the PMD may set PMD_global_transmit_disable to one (as in 92.7.6).
Similarly in 87.5.7, 88.5.7, 89.5.6, 95.5.7, 112.5.6, 86.5.8, 88.5.8, 95.5.8.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 86.5.7, 87.5.7, 88.5.7, 89.5.6, 95.5.7, and 112.5.6, change:
"set the PMD_global_transmit_disable to one" to:
"set the PMD_global_transmit_disable variable to one"

In 53.4.7, change:
"set the Global_PMD_transmit_disable to one" to:
"set the Global_PMD_transmit_disable variable to one"

In 84.7.7, 85.7.7, 86.5.8, 87.5.8, 88.5.8, 92.7.7, 93.7.7, 94.3.6.7, 95.5.8, change:
"set each PMD_transmit_disable_i to one" to:
"set each PMD_transmit_disable_i variable to one"

Cl **86** *SC* **86.5.8** *P* **272** *L* **50** # 141

Dawe, Piers — Mellanox Technologies

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

Function names don't have underscores like this (see line 1), although functional variable names do. It's not obvious to me that we have to define the function separately for each lane - it's not done in the subclause heading (line 1)

SuggestedRemedy

If we don't, change "The PMD_transmit_disable_i function (where i represents the lane number in the range 0:n-1) is" to "The PMD lane-by-lane transmit disable function is". Insert "(where i represents the lane number in the range 0:n-1)" into the next sentence.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 84.7.7, 85.7.7, 86.5.8, 87.5.8, 88.5.8, and 95.5.8 make the following changes:
Change "The PMD_transmit_disable_i" to "The PMD lane-by-lane transmit disable"
Move the phrase in brackets from the first sentence to requirement a) after "PMD_transmit_disable_i variable"

In the last sentence of 86.5.8, 87.5.8, 88.5.8, and 95.5.8 and also in 86.11.4.2 SM3 change:
"PMD_transmit_disable_i function" to "PMD lane-by-lane transmit disable function"

Cl **53** *SC* **53.4.7** *P* **625** *L* **6** # 142

Dawe, Piers — Mellanox Technologies

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

53 Global PMD transmit disable function, Global transmit disable, Global_PMD_transmit_disable
86 PMD global transmit disable function, Global PMD transmit disable, PMD_global_transmit_disable
92 Global PMD transmit disable function, Global PMD transmit disable, Global_PMD_transmit_disable

SuggestedRemedy

Can the order of "PMD" and "global" be made consistent? Similarly for signal detect.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In the PMD clauses in the draft, either "PMD_global_transmit_disable" or "Global_PMD_transmit_disable" is consistently used for the variable name throughout each clause. Similarly, either "PMD_global_signal_detect" or "Global_PMD_signal_detect" is consistently used.
There are 79 instances of "Global_PMD_transmit_disable" and 50 instances of "PMD_global_transmit_disable" in the draft, so changing all PMD clauses to one or the other would cause significant disruption without much benefit.
However, in some clauses, there is inconsistency as to whether the function names have underscores.

In Table 53-2, Table 71-2, Table 113-9, and Table 126-6 change "Global transmit disable" to "Global PMD transmit disable" since this is the Clause 45 MDIO control variable name for bit 1.9.0.

In 86.5.7, 87.5.7, 88.5.7, 89.5.6, 95.5.7, and 112.5.6 change "PMD_global_transmit_disable function" to "PMD global transmit disable function"

Cl **00** *SC* **0** *P* *L* # 143

Dawe, Piers — Mellanox Technologies

Comment Type **E** *Comment Status* **R** *bucket*

This document would be easier to use with unique page numbers.

SuggestedRemedy

The pages could be numbered consecutively throughout the sections, or e.g. Section 4 could start on page 4001. Clause 115 could be moved from section 7 to 8 if 7 goes over 1000 pages (!)

Response *Response Status* **C**

REJECT.

Alignment between the number in the page footer and the PDF page number has been deemed important for ease of use. The options proposed in the suggested remedy do not preserve this property.

While this means the same page numbers appear in multiple sections, any ambiguity is easily removed by specifying the section (or clause) number in addition to the page number.

Cl **112** *SC* **112.7.2** *P* **678** *L* **4** # 144

Dawe, Piers — Mellanox Technologies

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

IEC 61280-1-3 (2010) is sufficient and we should use only international standards where they are available and adequate. Anyway, "TIA/EIA-455-127-A" would be "TIA-455-127-A".

SuggestedRemedy

Delete "TIA/EIA-455-127-A or" here (and in the PICS 112.11.4.4). Similarly in Clause 95 and other maintained MMF clauses that assume VCSELs.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #128

Cl **86** *SC* **86.8.4.1** *P* **282** *L* **6** # 145

Dawe, Piers — Mellanox Technologies

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

IEC 61280-1-3 (2010) is sufficient and we should use only international standards where they are available and adequate.

SuggestedRemedy

Change TIA-455-127-A to IEC 61280-1-3 (and in the PICS 86.11.4.4). Similarly in other maintained SMF clauses such as 38.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #128

Cl **1** *SC* **1.4.289** *P* **84** *L* **42** # 146

Thompson, Geoff — GraCaSI S.A.

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

The current definition of "link section" is not precise as to its boundaries. The definition of link section was always intended to be precisely equivalent to that of a link segment for a endspan PSE and precisely parallel to that of a link segment for a mispan PSE. The definition of a link section should use the same or parallel terminology as has always been used for link segment.

SuggestedRemedy

Change the CURRENT TEXT in the draft from: 1.4.289 link section: The portion of the link from the PSE to the PD.

To the PROPOSED TEXT: 1.4.289 link section: The point-to-point medium connection between the active PSE Power Interface (PI) and the PD PI.

This would be implementation of Maintenance Request #1309.

Response *Response Status* **W**

ACCEPT.

Cl **00** *SC* **0** *P* **1** *L* **1** # 147

Healey, Adam — Broadcom Ltd.

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

This comment is submitted on behalf of Michelle Turner, Managing Editor, IEEE-SA.

Must or shall is used in NOTES (which are considered informative). Please note "shall" should not be used in informative notes. Please consider changing the verb to when necessary. I have also highlighted the areas when must is used. Typically "must" states a mandatory requirement and in many instances we will change "must" to shall during publication prep. With that being said-- we don't want to do that since it is in a NOTE. Please see the instances below. I've also provided a few recommendations as an example. I tried to avoid changing the verb to "should" or "may."

List of instances and recommendations are included in an attachment.

SuggestedRemedy

Modify notes to remove the use of "must" or "shall" as appropriate.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement the changes described in <http://www.ieee802.org/3/maint/public/healey_2_0917.pdf>. Note that no changes are made to clauses that are "recommended to not be used in new installations" and for which "maintenance changes are no longer being accepted."

Cl **98** *SC* **98.5.5** *P* **227** *L* **8** # 148

Zimmerman, George — CME Consulting, Inc.

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

Figure 98-8 has several typos. On 4 transitions (5 places) an OR (+) is indicated for state transitions when the condition should be an AND (*) - line 8, 14,21 (&22) and line 28. Clause 98 is based on Clause 73. There are some important differences but figure 73-9 shows the expected behavior for the state transitions that are common between them. (see figures attached as zimmerman_3cj_01_0817.pdf showing Figures 73-9 and 98-8). On 4 transition branches, "*" (AND) operators, appear to have been replaced with "+" (OR) operators.

I can only conclude this was a typo made on the implementation of comment 316 going from Draft 2.0 to Draft 2.1, which remained uncaught, for the following reasons:
1. The original contribution that proposed the state diagram had these as "*" (mcclellan_3bp_03_1114_%20Autoneg_baseline_text_proposal_v0p4.pdf, page 25)
2. The proposal was implemented as "*" in draft 1.1 (the first place this showed up): (see e.g., page 88 of D1.1), through d 2.0, but change in D 2.1 when the figure was redrawn based on comment 316 to change the font size, and were unchanged since then.
3. There are no comments on draft 2.0 to change the logic of the transitions on Figure 98-8, or in connection with these variables, based on an electronic search of the D2.0 comment resolution report.

SuggestedRemedy

Line 8: Change "transmit_mv_end_done + remaining_ack_cnt = done" to "transmit_mv_end_done * remaining_ack_cnt = done" on transition from TRANSMIT DELIMITER TAIL to WAIT 1)
Line 14: Change "complete_ack = true + transmit_mv_start_done" to "complete_ack = true * transmit_mv_start_done" on transition from TRANSMIT DELIMITER HEAD to TRANSMIT REMAINING ACKNOWLEDGE
Lines 22 & 23 (2 instances): Change "complete_ack = false + transmit_ability = true + transmit_mv_start_done" to "complete_ack = false * transmit_ability = true * transmit_mv_start_done" on transition from TRANSMIT DELIMITER HEAD to TRANSMIT ABILITY
Line 27: Change "transmit_mv_end_done + remaining_ack_cnt = not_done" to "transmit_mv_end_done * remaining_ack_cnt = not_done" on transition from TRANSMIT DELIMITER TAIL to WAIT 2.

Response *Response Status* **C**

ACCEPT.