Cl **126** *SC* **126.7.2** *P* **167** *L* **25** # 1

Sedarat, Hossein Aquantia

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

There are factors of 4 in equations 126-10, 126-11, 126-21, 126-22, 126-24, 126-25, which corresponds to the number of connectors throughout the channel.

There are also factors of 2 in equations 126-14, 126-15, 126-16, 126-17 which corrspond to the number of the near-end connectors.

It is not clear what these factors are.

SuggestedRemedy

It is very informative that the text high-lights that these factors are the number of connectors in the corresponding channels.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Editoral license to implement suggested remedy.

Cl **126** *SC* **126.7.2.4.2** *P* **171** *L* **41** # 2

Sedarat, Hossein Aquantia

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

The max NEXT loss of 62 dB is not inline with the TIA spec of 57 dB.

SuggestedRemedy

Replace 62 with 57.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.7.2** *P* **171** *L* **40** # 3

Sedarat, Hossein Aquantia

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

The link segment transmission parameters are expressed in 2 sets of equations, one for below and another above 100MHz. With the exception of NEXT channel, these 2 sets are identical. This may create confusion and makes the distiction in NEXT less obvious.

SuggestedRemedy

Use one set of equation whenever they are identical.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.7.2.4.5** *P* **172** *L* **52** # 4

Sedarat, Hossein Aquantia

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

There is an upper bound of 62 dB which is not inline with TIA specifications.

SuggestedRemedy

Remove the upper bound.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment#9

Cl **126** *SC* **126.5.4.4** *P* **160** *L* **39** # 5

Sedarat, Hossein Aquantia

Comment Type **T** *Comment Status* **A** *PMA Electrical*

The bandwidth is borrowed from 10GBASE-T specifications and is too wide.

SuggestedRemedy

Replace "400 MHz" with "200xS MHz".

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.5.4.4** *P* **161** *L* **1** # 6

Sedarat, Hossein Aquantia

Comment Type **T** *Comment Status* **A** *PMA Electrical*

The white noise level is borrowed directly from 10GBASE-T specification which is not appropriate for 5G and 2.5G.

SuggestedRemedy

Replace "is -141.9 dBm/Hz" with

"should result in 32 dB of Salz SNR. When the insertion loss of the channel is at the limit line defined in 126-10, noise power spectral density is -137 dBm/Hz and -127 dBm/Hz for 5G and 2.5G, respectivley"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace "is -141.9 dBm/Hz" with "is -137 dBm/Hz and -127 dBm/Hz for 5G and 2.5G, respectively"

Cl **126** *SC* **126.7.2.4.1** *P* **170** *L* **10** # 7

Sedarat, Hossein Aquantia

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

The max NEXT loss of 65 dB is not inline with the TIA spec of 60 dB.

SuggestedRemedy

replace 65 with 60.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.7.2.4.4** *P* **171** *L* **41** # 8

Sedarat, Hossein Aquantia

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

The constant 32.1 in the second term of equations 126-21 and 126-22 is not inline with the corresponding constant of 35.1 in TIA sepcifications.

SuggestedRemedy

Replace 32.1 with 35.1 in those 2 expressions.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.7.2.4.4** *P* **172** *L* **22** # 9

Sedarat, Hossein Aquantia

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

TIA identifies the ACRF as "information only" when FEXT loss is greater than 70 dB.bb

SuggestedRemedy

Add this sentence to the end of this clause:
The ACRF value is for information only when the corresponding FEXT loss is greater than 70 dB.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Editor to align ACRF max/min limits with TIA-5e

Cl **126** *SC* **126.5.3.3** *P* **157** *L* **15** # 10

Sedarat, Hossein Aquantia

Comment Type **TR** *Comment Status* **A** *PMA Electrical*

The limit of 5.5 ps is taken from 10G specification and is unnecessarily too tight for 5G and 2.5G operation.

SuggestedRemedy

Replace "5.5 ps" with

"7.2 ps and 10.0 ps for 5G and 2.5G, respectively"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace "5.5ps" with "7.2 ps for 5GBASE-T and 10.0 ps for 2.5GBASE-T."

Cl **45** *SC* **45.2.3.13** *P* **46** *L* **22** # 11

Jones, Peter Cisco

Comment Type **E** *Comment Status* **A** *BQ align*

In "45.2.3.13 BASE-R and MultiGBASE-T PCS status 1 register (Register 3.32)" "Table 45–128—BASE-R and MultiGBASE-T PCS status 1 register bit definitions", "2.5GBASE-T, 5GBASE-T, 10GBASE-T or 40GBASE-T" is clumsy.

SuggestedRemedy

replace "2.5GBASE-T, 5GBASE-T, 10GBASE-T or 40GBASE-T""2.5GBASE-T, 5GBASE-T, 10GBASE-T or 40GBASE-T" with "MultiGBASE-T", same for other 3 rows.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment 46

Cl **126** *SC* **126.7.2.3** *P* **169** *L* **7** # 12

Jones, Peter Cisco

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

In "126.7.2.3 Return loss" (and many similar clauses), the text says "shall meet the values determined Equation (xx-yy)."

SuggestedRemedy

for 126.7.2.3 it should say "shall meet the values determined using Equation (126–13) at all frequencies from 100 MHz to 250 MHz." because Equation (126–12) covers 0-100Mhz.

In many other cases, it should just be "shall meet the values determined using Equation (xxx-yyy)"

Please search for "values determined Equation" and correct all as required.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to review frequency ranges for all equations and correct or add if necessary.

Cl **45** *SC* **45.2.1.62.1** *P* **38** *L* **30** # 13

Jones, Peter Cisco

Comment Type **E** *Comment Status* **A** *BQ Align*

In the text for "45.2.1.62.1 LP information valid (1.129.0)", it says "When read as a one, bit 1.129.0 indicates that the startup protocol defined in 113.4.2.5 has been completed,."

I'm not clear why this was changed from pointing to 55.4.2.5 to 113.4.2.5. It seems like the clause 55 text is still there, neither BQ or BZ have modified it. 3bz includes similar text in 126.4.2.5 which is not referred to.

Below there is text like "The 10GBASE-T startup negotiation process and all TX power backoff settings are defined in 55.4.2.5 and 55.4.5.1. The 40GBASE-T startup negotiation process and all TX power backoff set-tings are defined in 113.4.2.5 and 113.4.5.1. For 2.5GBASE-T and 5GBASE-T, startup negotiation process and all TX power backoff settings are defined in 126.4.2.5 and 126.4.5.1.".
Maybe a table of clause names(which are common) to clause numbers (vary per clause) for the MultiGBASE-T references in "45.2.1 PMA/PMD registers " would improve reability & consistency?

SuggestedRemedy

At least fix reference to clause 126.
Consider adding a table mapping the clause names to the various MultiGBASE-T clause numbers, and then use table xref wiht a clause name as the cross refence in clause 45.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Fix the reference to clause 126. Add reference to Clause 55 back in. Editor to consider the table, aligning with resolution of a similar comment on BQ, and think about the ROI of a table.

Cl **45** *SC* **45.2.1.66** *P* **39** *L* **36** # 14

Jones, Peter Cisco

Comment Type **E** *Comment Status* **A** *BQ align*

In "45.2.1.66 SNR operating margin channel A register (Register 1.133)", it says "the 10GBASE-T, 2.5GBASE-T, 5GBASE-T, and 40GBASE-T PMAs."

The text is out of step with BQ which says "PMAs in the MultiGBASE-T set.", make changes in 45.2.1.66-69.

SuggestedRemedy

Fix to match BQ.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.74** *P* **40** *L* **25** # 15

Jones, Peter Cisco

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

In "45.2.1.74 RX signal power channel A register (Register 1.141)" it says "(as appropriate, see 55.4.6.1 and 126.4.6.1), when".

I think this is another case where the standard should include table that cross refences "clause name" (or similar) for the MultiGBASE-T PMAs, that way all these little clauses can refer to the table.

SuggestedRemedy

Consider this suggestion, implement if ROI is positive.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Commenter and editor to work to show Task Force draft text, and, if fruitful, change in BZ and submit to BQ on later ballot.

Cl **45** *SC* **45.2.3.13.4** *P* **47** *L* **11** # 16

Jones, Peter Cisco

Comment Type **E** *Comment Status* **A** *BQ Align*

In "45.2.3.13.4 BASE-R and 10MultiGBASE-T PCS high BER (3.32.1)" it conrtains the text "For 2.5GBASE-T, 5GBASE-T, 10GBASE-T, and 40GBASE-T when read as a one". This is long and clumsy.

SuggestedRemedy

for any case where the text says "2.5GBASE-T, 5GBASE-T, 10GBASE-T, and 40GBASE-T", replace with "any MultiGBASE-T".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment 46

Cl **126** *SC* **126.5.4.1** *P* **159** *L* **50** # 17

Jones, Peter Cisco

Comment Type **E** *Comment Status* **A** *PMA Electrical*

In "126.5.4.1 Receiver differential input signals" it says "800 octet frames with minimum IPG or greater than 799 octet IPG."

Looks like there is a missing word or two (carried over from 10GBASE-T). Doesn't make sense when I read this, should this say something like "(Frame size + IPG)> 812"?

Same text shows up in "126.5.4.4 Alien crosstalk noise rejection"

SuggestedRemedy

validate intent, and fix text.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Insert Editor's note (to be removed prior to Working Group ballot) - See estes_3bz_01_1115.pdf for derivation and rationale of the frame error ratio test.

Change "800 octet frames with minimum IPG or greater than 799 octet IPG." to read "800 octet frames with minimum IPG or greater than 220 octet IPG."
and change frame error ratio from 9.6x10^–9 to 7.8x10^-9.

Make same change in 126.5.4.4 P160 L35 (repeating editor's note).

Cl **126** *SC* **126.7.3.1** *P* **173** *L* **52** # 18

Jones, Peter Cisco

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

In "126.7.3.1 Alien Crosstalk Limited Signal-to-Noise Ratio Criteria" it says "The selection of the number of disturbing link segments and signalling
rates to consider are addressed in TBD."

Do we know where this is going to be yet?

SuggestedRemedy

Add to outstanding work list?

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace TBD withTIA TSB 5021 and ISO/IEC TR 11801-9904

Cl **126** *SC* **126.12.3.1** *P* **184** *L* **38** # 19

Jones, Peter Cisco

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

in "126.12.3.1 PCS Transmit functions", "PCT10 CRC8" was removed compared to 10GBASE-T. PTC10 is missing, why don't we renumber to be sequential?

SuggestedRemedy

Renumber if approriate.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor to renumber PICs prior to generation of draft 2.0
Insert Editor's note (to be removed prior to Working Group Ballot) - Editor to renumber PICs sequentially prior to generation of draft 2.0

Cl **125** *SC* **125.1.2** *P* **69** *L* **18** # 20

Jones, Peter Cisco

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

"125.1.2 Relationship of 2.5 Gigabit and 5 Gigabit Ethernet to the ISO OSI reference model" says "2.5 Gigabit and 5 Gigabit Ethernet couples the IEEE 802.3 MAC to a family of 2.5 Gb/s and 100 Gb/s Physical
Layers."

SuggestedRemedy

replace 100Gb/s by 5Gb/s

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.3** *P* **105** *L* **26** # 21

Jones, Peter Cisco

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

"126.3.2.3 PCS Receive function" says "If 40 consecutive LDPC frame errors are detected".

Given that many of the frame count numbers scale (double) compared to 10GBASE-T based on the frame size change (half), I'm wondering if this should say "80 consecutive LDPC frame errors"

SuggestedRemedy

Check the number. Fix if required.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **126** *SC* **126.6.1** *P* **161** *L* **54** # 22

Jones, Peter Cisco

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

In "126.6.1 Support for Auto-Negotiation", we only list two items. 10GBASE-T includes the following, why did we leave them out for 3bz??
c) To determine whether the local PHY performs PMA training pattern reset.
d) To determine whether the local PHY supports the EEE capability.
e) To determine whether the local PHY supports the fast retrain capability.

SuggestedRemedy

Add the following if needed.

c) To determine whether the local PHY performs PMA training pattern reset.
d) To determine whether the local PHY supports the EEE capability.
e) To determine whether the local PHY supports the fast retrain capability

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
No changes to the draft -
c) PMA training pattern reset has been deleted
d) & d) are now exchanged in infofields during startup

Cl **126** *SC* **126.7** *P* **167** *L* **2** # 23

Jones, Peter Cisco

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

In "126.7 Link segment characteristics", it says "guidelines in TIA TSB-5021, ISO/IEC TR X, ANSI/TIA-568-C.2,"

Dow ehave a number for the "ISO/IEC TR X" yet?

SuggestedRemedy

Fix reference.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor given license to update references
ISO/IEC TR 11801-9904

Cl **126** *SC* **126.7.2.4.3** *P* **170** *L* **48** # 24

Jones, Peter Cisco

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

In "126.7.2.4.3 Multiple disturber power sum near-end crosstalk (PSNEXT) loss" it says "three individual pair-to-pair differential NEXT loss values over the frequency range 1 MHz to 250 MHz".

It's not clear to me why this does not have a 2.5G case that only goes from 1 MHz to 100 MHz".

SuggestedRemedy

fix if needed.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Add 1 MHz to 100 MHz as follows ……over the frequency range 1 MHz to 100 MHz for Equation (126-16) and 1 TO 250 MHz for Equation (126-17) as follows in Equation (126–18).

Cl **126** *SC* **126.8.2** *P* **178** *L* **51** # 25

Jones, Peter Cisco

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

In "126.8.2 MDI electrical specifications", it says "over the range 1 MHz to 250 MHz between all contact pair combinations shown in ...".

250Mhz is half the 10GBASE-T value. Does this need to be scaled for a system only supporting 2.5G?

SuggestedRemedy

Add 1-100Mhz case for 2.5G.

Response *Response Status* **C**

ACCEPT.

Cl **46** *SC* **46.6.3** *P* **64** *L* **41** # 26

Jones, Peter Cisco

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

In "46.6.3 PICS proforma Tables for Reconciliation Sublayer and 10 Gigabit Media Independent", Table "46.6.3.1 General" lists all 3 rates as Mandatory.

We must allow systems that don't support all of 2.5G/5G/10G. Need a "condition" PICS - is there any precedent?

SuggestedRemedy

Add G4 which says "Must support at least one of G1, G2, G3" as M, and then chance G1/G2/G3 to O.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.2.2.4.2** *P* **88** *L* **15** # 27

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **A** *Ref Model*

"126.2.2.4.2 When generated" says "The nominal rate of the MA_UNITDATA.indication primitive is 3200 MHz, as governed by the recovered clock."

3200 MHz seems like copy/paste from 40GBASE-T (4x 10GBASE-T number), shouldn't this be SX400Mhz?

SuggestedRemedy

fix the text - SX400Mhz or spell out rates for 2.5G/5G

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace 3200 MHz by Sx400MHz

Cl **46** *SC* **5** *P* **300** *L* *#* 28

Bains, Amrik — Cisco System

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

46.5 XGMII electrical characteristics
Says:
"The electrical characteristics of the XGMII are specified such that the XGMII can be applied within a
variety of 10 Gb/s equipment types" but not 2.5G/5G

SuggestedRemedy

Add "2.5Gb/s, 5Gb/s"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **2.1.62** *P* **38** *L* **34** *#* 29

Bains, Amrik — Cisco System

Comment Type **E** *Comment Status* **A** *BQ align*

Definition of MultiGBASE-T syas 10GBASE-T, 2.5GBASE-T, 5GBASE-T or 40GBASE-T but missing 25GBASE-T

SuggestedRemedy

Add "25GBASE-T" to MultiGBASE-T

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **3.2.2.5** *P* **96** *L* **8** *#* 30

Bains, Amrik — Cisco System

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

Arrows from XGMII to Encoder are not aligned on figure 126-6 near top-left corner

SuggestedRemedy

Align arrows from XGMII to Encoder in figure 126-6

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **2.2.4.2** *P* **88** *L* **15** *#* 31

Bains, Amrik — Cisco System

Comment Type **T** *Comment Status* **A** *State diagrams*

PMA_UNITDATA.indication primitive should include frequeb=ncy for 2.5G and 5G

"The PMA generates PMA_UNITDATA.indication (SYMB_4D) messages synchronously every four
symbols received at the MDI. The nominal rate of the PMA_UNITDATA.indication primitive is 3200 MHz,
as governed by the recovered clock."

SuggestedRemedy

Include 1600MHz and 800M MHz for 5G and 2.5G data rates

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change 3200 MHz to: "Sx400 MHz"

Cl **00** *SC* **0** *P* **22** *L* **34** *#* 32

Zimmerman, George — CME Consulting

Comment Type **ER** *Comment Status* **A** *BZ Order*

It is now clear that BQ will precede BZ to sponsor ballot. References to text also inserted by BQ may be deleted, and edits should be on text as modified by BQ.
"Editor's note (to be removed prior to publication) - this definition is added in IEEE P802.3bq - if this amendment precedes 802.3bq into sponsor ballot, change instruction to "insert" and incorporate full definition in bz without 40GBASE-T (or 25G) and change "bq" to a "change" instruction to add the appropriate speeds."

SuggestedRemedy

Remove editor's notes and text inserted that is also in BQ.
Revert text flagged by these notes to be edits on text in 802.3bq draft out of this meeting.
Change editing instructions where edits are on text as modified by BQ to state that the edit is 'on text modified by 802.3bq'
Editor to track changes in 802.3bq drafts and comment/modify text in bz to keep alignment.
(MASTER COMMENT ON ALIGNING WITH 802.3BQ)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
(BQ accepted)
Nomenclature: "on text as modified by IEEE Std 802.3bq-201x"

Cl **45** *SC* **45.2.7.10.4b** *P* **51** *L* **25** # 33

Zimmerman, George CME Consulting

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

section "4b" should be "4d"

SuggestedRemedy

Change section number as in comment, change editing instruction that "a through c are added in 802.3bq".

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.3.2** *P* **27** *L* **26** # 34

Zimmerman, George CME Consulting

Comment Type **E** *Comment Status* **A** *BQ align*

Delete 40Gb/s strikeout text - align w/bq

SuggestedRemedy

see comment - relates to master comment on aligning with text 'as modified in 802.3bq'

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.5.3** *P* **27** *L* **44** # 35

Zimmerman, George CME Consulting

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

Reference to clause 1.4 is unuseful. Refer to 1.4.278a

SuggestedRemedy

see comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Align with BQ out of this meeting - cross reference likely to change to .277b

Cl **30** *SC* **30.3.2.1.2** *P* **30** *L* **2** # 36

Zimmerman, George CME Consulting

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

Editing instruction is insert - no underline
Also on:
30.3.2.1.3 (P30 L15)
30.6.1.1.5 (P32 L50)

SuggestedRemedy

see comment

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1** *P* **34** *L* **20** # 37

Zimmerman, George CME Consulting

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

Cross references to 45.2.1.70-77 should be active, not external cross references

SuggestedRemedy

Change cross references as in comment

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.11a** *P* **53** *L* **6** # 38

Zimmerman, George CME Consulting

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

"Insert four new clauses after 45.2.7.11.7a (see IEEE P802.3bq draft)." shoudl be after 7b.
Align with bq draft out of this meeting

SuggestedRemedy

See comment, renumber subsequent sections to align with 802.3bq draft out of this meeting: - relates to master comment on alignment with 802.3bq.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.14c** *P* **56** *L* **37** # 39
Zimmerman, George CME Consulting

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

Hanging ".."

SuggestedRemedy

delete ".."

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.3** *P* **59** *L* **32** # 40
Zimmerman, George CME Consulting

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

Delete Table Title

SuggestedRemedy

See comment

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.5.4.8** *P* **28** *L* **13** # 41
Zimmerman, George CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

PIC SD11 - delete 40G strikeouts. Change 'family' to 'devices' to align with BQ

SuggestedRemedy

Align with BQ, see comment
- relates to master comment on aligning with text 'as modified in 802.3bq'

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.3.2** *P* **29** *L* **42** # 42
Zimmerman, George CME Consulting

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

Typo: PHYdevicePHYdevice managed object

SuggestedRemedy

Change PHYdevicePHYdevice to PHYdevice

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.5** *P* **68** *L* **16** # 43
Zimmerman, George CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

generalize text to MultiGBASE-T per comment in 802.3bq this meeting. (2 places, line 16 & 18)

SuggestedRemedy

Align with BQ text OUT OF THIS MEETING. - relates to master comment on BQ alignment

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.1** *P* **35** *L* **11** # 44
Zimmerman, George CME Consulting

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

5 Gb/s should be underlined as editing instruction is 'change'

SuggestedRemedy

see comment

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.65.1** *P* **39** *L* **30** # 45
Zimmerman, George CME Consulting

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

add in 45.2.1.65.1 and 45.2.1.65.2 to the draft, and insert cross references to clause 126 for 2.5G/5GBASE-T.

SuggestedRemedy

see comment

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.1.2** *P* **42** *L* **47** # 46

Zimmerman, George CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

Align text with 802.3bq, which already uses the MultiGBASE-T nomenclature rather than a list of PHYs.
Same applies for:
45.2.3.2.7 (P43 L12),
45.2.3.13 (P46 L3),
Table 45-128,
45.2.3.13.4 (2nd paragraph),
45.2.3.13.5,
45.2.3.14,
Table 45-129.
45.2.3.14.1,
45.2.3.14.2,
45.2.7.11.1

SuggestedRemedy

Align text with draft of 802.3bq out of this meeting. - relates to master comment on aligning with text 'as modified in 802.3bq'

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.13.1** *P* **46** *L* **44** # 47

Zimmerman, George CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

add in 25GBASE-T (align with BQ)
Also applies to:
45..2.3.14.3,
45.2.3.14,4,
45.2.7.11.2

SuggestedRemedy

See comment - relates to master comment on aligning with text 'as modified in 802.3bq'

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.10** *P* **51** *L* **11** # 48

Zimmerman, George CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

Table 45-207: Delete reserved row 10:9, change editing instruction to below 7.32.9 as modified in 802.3bq

SuggestedRemedy

See comment - relates to master comment on aligning with text 'as modified in 802.3bq'

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.11** *P* **52** *L* **14** # 49

Zimmerman, George CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

Table 45-208: Bits 7.3.8:7 are not reserved, they are in 802.3bq

SuggestedRemedy

Delete reserved row - relates to master comment on aligning with text 'as modified in 802.3bq'

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.13** *P* **53** *L* **39** # 50

Zimmerman, George CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

Align with 802.3bq: Change text to be as in 802.3bq - add 25GBASE-T, text about exchange in infofields.
Change text in bq to insert 2.5GBASE-T and 5GBASE-T: "For >>2.5GBASE-T, 5GBASE-T, << 25GBASE-T>>,<< and 40GBASE-T, the EEE advertisement is exchanged in the InfoField during training as defined in 113.4.2.5.10."

Similar on P54 L17 (45.2.7.14)

SuggestedRemedy

See comment - relates to master comment on 802.3bq alignment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change text in bq to insert 2.5GBASE-T and 5GBASE-T: "For >>2.5GBASE-T, 5GBASE-T, << 25GBASE-T>>,<< and 40GBASE-T, the EEE advertisement is exchanged in the InfoField during training as defined in 113.4.2.5.10, and 126.4.2.5.10."

Cl **45** *SC* **45.2.7.14c** *P* **57** *L* **11** # 51

Zimmerman, George — CME Consulting

Comment Type **ER** *Comment Status* **A** *BQ align*

Table 45-211c bits 1:0 not reserved (assigned in bq)
Same for Table 45-211d p58 L24

SuggestedRemedy

See comment - relates to master comment on 802.3bq alignment

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.6** *P* **60** *L* **9** # 52

Zimmerman, George — CME Consulting

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

*C25T and *C5T are already included in the *CT option, now generalized for MultiGBASE-T

SuggestedRemedy

Delete *C25T and *C5T

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.9** *P* **61** *L* **11** # 53

Zimmerman, George — CME Consulting

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

PICS AM61, AM62 advertise 40Gb/s - need to add PICS for 2.5G and 5G (after leaving room for 25Gb/s)

SuggestedRemedy

Add PICS AM65, 66, 67, 68 modeled on AM61 & AM62, except for 2.5GBASE-T and 5GBASE-T.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.5.4.3** *P* **160** *L* **20** # 54

Cibula, Peter — Intel Corporation

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

The text referring to the impairment signal power in 126.5.4.3 defines a maximum limit by stating that the calibrated power "...does not exceed 6 dBm..." The calibration procedure outlined in Annes 113A, 113A.3 Cable clamp validation uses a nominal value and a tolerance of +/- 10%.

Given that the calibration procedure permits a maximum value of 6.6dBm for the power level defined in Clause 126, the normative text should identify a nominal value with tolerance instead of a maximum value.

Note that the suggested remedy, which explicitly identifies the impairment signal power as a nominal level with a tolerance, is better aligned with Clause 40, which defines a signal level in the normative text (40.6.1.3.3) and a tolerance about this level in the informative annex (Annex 40B).

Note that the final form of the suggested remedy should align with the parallel requirment in Clause 113.5.4.3.

SuggestedRemedy

Change the text in 126.5.4.3, Page 160, Lines 19 and 20 from

"A sine wave with the amplitude held constant over the whole frequency range from 80 MHz to 1000 MHz, with the amplitude calibrated so that the signal power measured at the output of the clamp does not exceed 6 dBm, is used to generate the external electromagnetic field and corresponding shield current."

to

"A sine wave with the amplitude held constant over the whole frequency range from 80 MHz to 1000 MHz, with the amplitude calibrated to a nominal signal power of 6 dBm measured at the output of the clamp, is used to generate the external electromagnetic field and corresponding shield current."

and add a footnote to 126.5.4.3 stating

"The 6dBm nominal measured power may vary by +/-10% across frequency as discussed in Annex 113A."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. See cibula_3bq_01_1115.pdf, for change to 126.5.4.3

Cl **Annex** *SC* **113A** *P* **206** *L* **14** # 55

Brillhart, Theodore — Fluke Networks

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

The mode convertion properties of the cable used in this test set-up are a predominant factor in meeting the limits of Table 113A-2. Minimum TCL values should be provided as an aid to the read
er, as the alternative can be a time consuming trial and error process.
[Appologies for not having time to work out the equation forms just yet. - TB]

SuggestedRemedy

Insert a note as follows:
Note - as the mode conversion properties of the cable used in this test are a predominant factor in meeting the voltage limits of Table 113A-2, maximum TCL values have been provided to aid the reader in selecting a cable of suitable performance. Cable TCL values should not exceed those shown.

Insert a column in table 113A-2, to the right of DM voltage, labeled TCL, with the following values:
20Log(CM/DM) [equation form TBD]
33.7 dB
20Log(CM/DM) [equation form TBD]
26.6 dB

Response *Response Status* **C**

REJECT.
The intent of the annex is to provide a general purpose test setup, including exploration of cabling properties. Specifying requirements for cabling beyond the link segment requirements of a referencing clause would be in conflict with this intent.

Commenter is referred to ad hoc preparing a tutorial, and suggested to provide detailed information on the subject for that tutorial.

Cl **45** *SC* **45.2.1.78** *P* **41** *L* **24** # 56

Lo, William — Marvell Semiconductor

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

e.g., 2.5ns for 10GBASE-T should be
e.g., 2.5ns for 5GBASE-T

SuggestedRemedy

See above

Response *Response Status* **C**

REJECT.
Text is "to an accuracy of two symbol periods (e.g., 2.5ns for 10GBASE-T)."

2 symbol periods for 10GBASE-T is 2.5ns.

Cl **126.9** *SC* **126.9.3** *P* **180** *L* **53** # 57

Moffitt, Bryan — CommScope

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

It is outside the scope (see 126.7.1 page 167 line 19)

SuggestedRemedy

delete including screen management

Response *Response Status* **C**

REJECT. Text reads….. in every instance in which such practice is applicable

Cl **1.4.2** *SC* **1.4.278a** *P* **23** *L* **16** # 58

Moffitt, Bryan — CommScope

Comment Type **E** *Comment Status* **A** *BQ Align*

include 25GBASE-T

SuggestedRemedy

as stated

Response *Response Status* **C**

ACCEPT.

Cl **126.5** *SC* **126.5.2.1** *P* **155** *L* **17** # 59

Moffitt, Bryan — CommScope

Comment Type **E** *Comment Status* **A** *PMA Electrical*

B not identified

SuggestedRemedy

delete

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Remove A & B from figure.

Commenter is correct, the test fixture is identical to that in Clause 55, and differences with the Clause 55 figure may confuse the reader, however, this was seen as a minimal risk. (see BQ comment 75**) (ACCEPT?)

Cl **126.5** *SC* **126.5.2.1** *P* **155** *L* **41** # 60
Moffitt, Bryan CommScope

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

S should be identified here

SuggestedRemedy

as stated

Response *Response Status* **C**

REJECT.
S is defined for the clause up front and used throughout.

Cl **126.5** *SC* **126.5.3.2** *P* **156** *L* **49** # 61
Moffitt, Bryan CommScope

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

SFDR should be identified

SuggestedRemedy

The Spurious-Free Dynamic Range (SFDR) of the transmitter

Response *Response Status* **C**

REJECT.
SFDR is defined in Clause 1.5 for 802.3

Cl **126.5** *SC* **126.5.3.4** *P* **158** *L* **6** # 62
Moffitt, Bryan CommScope

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

The equation should be labeled

SuggestedRemedy

as stated

Response *Response Status* **C**

REJECT.
The equation is labled, at line 18.

Cl **126.5** *SC* **126.5.3.4** *P* **159** *L* **27** # 63
Moffitt, Bryan CommScope

Comment Type **E** *Comment Status* **D** *PMA Electrical*

unclear why traceability and the complexity is needed

SuggestedRemedy

use direct equations

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Traceability helps expected implementers understand how the PSD relates to other speeds, and helps builders of multi-speed PHYs

Cl **126.5** *SC* **126.5.4.4** *P* **161** *L* **1** # 64
Moffitt, Bryan CommScope

Comment Type **E** *Comment Status* **A** *PMA Electrical*

four significant digits seems excessive especially given baluns and coupling

SuggestedRemedy

use -142

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
OBE by Comment 6

Cl **126.6** *SC* **126.6.2** *P* **166** *L* **44** # 65
Moffitt, Bryan CommScope

Comment Type **E** *Comment Status* **A** *BQ Align*

25G is missing

SuggestedRemedy

add

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add 25GBASE-T to list.

Cl **126.7** *SC* **126.7.2** *P* **167** *L* **32** # 66

Moffitt, Bryan CommScope

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

Higher class is just as valid

SuggestedRemedy

Add third row to Table 126-18 Class Ea/ Category 6A and note c:Supported link segments up to 100 m meet the signal-to-alien crosstalk noise margin by design. Do the same for Table 126-19.

Response *Response Status* **C**

REJECT. See 126.7.1 Cabling system characteristics... Operation on other classes of cabling may be supported if the link segment meets the requirements of 126.7.

Cl **126.7** *SC* **126.7.2.1** *P* **168** *L* **26** # 67

Moffitt, Bryan CommScope

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

the word using is missing

SuggestedRemedy

shall meet the values determined using Equation (126–11). Do this before the other equations as well.

Response *Response Status* **C**

ACCEPT.

Cl **126.7** *SC* **126.7.2.1** *P* **168** *L* **46** # 68

Moffitt, Bryan CommScope

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

should have a measurement floor

SuggestedRemedy

3 dB

Response *Response Status* **C**

REJECT. The link segment is for channel characterization is independent of measurment floor. Cabling standards references cited include measurement floor dependencies.
For committee discussion.

Cl **126.7** *SC* **126.7.2.4.4** *P* **171** *L* **40** # 69

Moffitt, Bryan CommScope

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

is this ACRF consistent with PSACRF?

SuggestedRemedy

fix

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment#8.

Cl **126.7** *SC* **126.7.3.1** *P* **174** *L* **1** # 70

Moffitt, Bryan CommScope

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

Step 1 disturbers would need to include the frequency ranges for 10000BASE-T and 10G. Also suggest using average IL for each segment to simplify the PBO determination

SuggestedRemedy

as suggested

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

(1)Step 1 disturbers would need to include the frequency ranges for 1000BASE-T and 10G: (Response below):

Add, after Step 1 (line 5) - "NOTE - While disturbing signals may contain higher frequencies, the received power, which determines the power back off, is dominated by the power below 100 MHz. Neglecting the higher frequencies has no appreciable effect in computing the 10GBASE-T or 5GBASE-T power back off."

(2)Also suggest using average IL for each segment to simplify the PBO determination and delete editor's note on page 174 line 51.
Response>>> Editor to implement text to include average IL for PBO in the Salz criterion.

Cl **126.7** *SC* **126.7.3.1** *P* **174** *L* **18** # 71

Moffitt, Bryan CommScope

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

-80.7 different than the Bonita presentation of -80.65.

SuggestedRemedy

4 significant digits is excessive anyway change -80.89 to -80.9 and do the same for the 1000BASE-T equation

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change -80.89 to -80.9 P174 L34

Cl **126.7** *SC* **126.7.3.1** *P* **174** *L* **47** # 72

Moffitt, Bryan CommScope

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

does not use the info in the sections - no phy signaling or registers. change to a table ref and simpler language for Step 4

SuggestedRemedy

Determine a transmit power backoff (dB) for the disturbed link segment k with an estimate of nominal received power using the Tx_PSD and average insertion loss from Steps 1 & 2 and table 126-12. Do the same for the disturbing link segments J including the potential disturbing rates of 10GBASE-T using Table 55-11. Note that 1000BASE-T disturbers backoff = 0 since they do not implement power backoff. Denote the disturbed link segment power backoff as Tx_PBOk and the disturbing link segments power backoff as Tx_PBOjr where r indexes the four potential disturber rates.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Minimum transmit power backoff (dB) uses the methods specified in 126.4.3.1. Suggested text for determining transmitt power backoff does not sufficiently replace referenced method.

Cl **126.7** *SC* **126.7.3.1** *P* **174** *L* **47** # 73

Moffitt, Bryan CommScope

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

The 10G PSD formula does not provide suitable power to match the PBO table in 55.4.3.1.

SuggestedRemedy

the 5G table seems to work

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Commentor has not provided sufficient information to make changes to the draft.

Cl **126.7** *SC* **126.7.3.1** *P* **175** *L* **33** # 74

Moffitt, Bryan CommScope

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

simplify Step 7

SuggestedRemedy

Determine the average signal PSD for the channels in the disturbed link segment using Equation (126–33).

Signal_PSD(f)=Tx_PSD_PBO(f)k-ILk

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Use IL_disturbed_k nomenclature found in step #1 in step #7.

Cl **126.7** *SC* **126.7.3.1** *P* **175** *L* **46** # 75

Moffitt, Bryan CommScope

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

2.5G should account for 5 and 10G disturbers. Also simplify Steps 8&9

SuggestedRemedy

Step 8 should include disturbing rates of 5 and 10G. Combine Steps 8 & 9 as a single step (like step 10) and the entire algorithm as introduced before Step 1 (see comment 19) should be done for each disturbed rate. This solves the ambiguities these two steps create in the following steps.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

For disturbed signalling rate 2.5G to consider all possible combinations of disturbing signalling rates 1G and 2.5G.

For disturbed signalling rate 5G to consider all possible combinations of disturbing signalling rates 1G, 2.5G, 5G and 10G

Cl **126.5** *SC* **126.5.2.1** *P* **155** *L* **41** # 76

Moffitt, Bryan CommScope

Comment Type **T** *Comment Status* **R** *PMA Electrical*

balun should have some specification

SuggestedRemedy

RL> 15 dB , Balance > 35 dB across 2GHz range

Response *Response Status* **C**

REJECT.
Specification unnecessary, proven test setup. (BQ REJECTED)

Cl **126.5** *SC* **126.5.3.4** *P* **159** *L* **10** # 77

Moffitt, Bryan CommScope

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

graph shows two different peak power levels but the equations do not differentiate. Also the vertical axis label needs fixing.

SuggestedRemedy

correct one or the other

Response *Response Status* **C**

REJECT.
Peak power level in equation IS different, because of log10(S) term.
Vertical axis label is clear.

Cl **126.7** *SC* **126.7.2.4.2** *P* **170** *L* **42** # 89

Moffitt, Bryan CommScope

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

should be MDNEXT floor

SuggestedRemedy

change to MDNEXT

Response *Response Status* **C**

ACCEPT.

Cl **126.7** *SC* **126.7.2.4.4** *P* **172** *L* **10** # 90

Moffitt, Bryan CommScope

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

not required or used

SuggestedRemedy

delete discussion and eq 126-23. replace with ACRF floor 65

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment#9.

Cl **126.7** *SC* **126.7.2.6** *P* **173** *L* **27** # 91

Moffitt, Bryan CommScope

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

all parameters for post install

SuggestedRemedy

delete once installed

Response *Response Status* **C**

REJECT.
Language is usefull to distinguish installed cabling performance.

Cl **126.7** *SC* **126.7.3.1** *P* **173** *L* **50** # 92

Moffitt, Bryan CommScope

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

already ID'ed TIA TSB 5021 on line 35

SuggestedRemedy

delete The selection of the number of disturbing link segments and signalling rates to consider are addressed in TBD.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment#18

Cl **126.7** *SC* **126.7.3.1** *P* **173** *L* **53** # 93

Moffitt, Bryan CommScope

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

change along with other Step comments for simplification and clarity

SuggestedRemedy

The ALSNRcriteria is determined for each signalling rate by the following algorithm calculated for each end of a disturbed link segment.

Also consider eliminating ALSNRcriteria and instead the last step just requires ALSNRlinkNR > SNRlinkreq.

May need separate SNRlinkreq for each disturbed rate.

Response *Response Status* **C**

REJECT.

Editorials offered are not consider significant improvements to text.

Cl **126.7** *SC* **126.7.3.1** *P* **174** *L* **21** # 94

Moffitt, Bryan CommScope

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

reference equation 126-29 for 1000B-T

SuggestedRemedy

as stated

Response *Response Status* **C**

ACCEPT. Change Equation (126–28) for 1000BASE-T to 126-29

Cl **126.7** *SC* **126.7.3.1** *P* **174** *L* **25** # 95

Moffitt, Bryan CommScope

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

K subscript should be j

SuggestedRemedy

as stated

Response *Response Status* **C**

ACCEPT.

Cl **126.7** *SC* **126.7.3.1** *P* **174** *L* **25** # 96

Moffitt, Bryan CommScope

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

cleanup

SuggestedRemedy

move eq 126-29 up to line 27 and delete lines 41-45

Response *Response Status* **C**

ACCEPT.

Cl **126.7** SC **126.7.3.1** P **175** L **1** # 97
Moffitt, Bryan CommScope

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

Simplify Steps 5&6

SuggestedRemedy

Tx_PSD_PBO(f)k=Tx_PSD(f)k-Tx_PBOk

Tx_PSD_PBO(f)jr=Tx_PSD(f)jr-Tx_PBOjr
(see comment 19 & 25)

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Simplication does not provide improvement over current text.

Cl **126.7** SC **126.7.3.1.1** P **177** L **27** # 98
Moffitt, Bryan CommScope

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

delete section - not relevantb

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **126.7** SC **126.7.3.1.2** P **177** L **47** # 99
Moffitt, Bryan CommScope

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

delete section - not relevant

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **00** SC **0** P **1** L **1** # 100
Law, David Hewlett Packard Enterp

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

Please provide the option of using the new comment spreadsheet at the URL <http://www.ieee802.org/3/WG_tools/spreadsheet/802d3_TFR_WGB_comments.xls> in future Task Force reviews.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT. No change required in draft

Cl **1** SC **1.4.74b** P **22** L **43** # 101
Law, David Hewlett Packard Enterp

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

Typo, missing space after subclause number.

SuggestedRemedy

Suggest that the text '1.4.74b5GBASE-T' be changed to read '1.4.74b 5GBASE-T'.

Response *Response Status* **C**

ACCEPT.

Cl **1** SC **1.4.76** P **22** L **45** # 102
Law, David Hewlett Packard Enterp

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

Based on the changes to subclause 1.1.3.2 and Clause 46 in this draft suggest that the definition in IEEE Std 802.3-2015 subclause 1.4.76 '10 Gigabit Media Independent Interface (XGMII)' be updated to match.

SuggestedRemedy

Add a new change to subclause 1.4 as follows (HTML markup used to indicate font):

<I>Change the definition for Gigabit Media Independent Interface (XGMII) as follows:</I>

1.4.76 10 Gigabit Media Independent Interface (XGMII): The interface between the Reconciliation Sublayer (RS) and the Physical Coding Sublayer (PCS) for <U> 2.5 Gb/s, 5Gb/s, and </U>10 Gb/s operation. (See IEEE Std 802.3, Clause 46.)

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.278a** *P* **23** *L* **15** # 103

Law, David — Hewlett Packard Enterp

Comment Type **E** *Comment Status* **A** *BQ Align*

Shouldn't the entry for 'MultiGBASE-T' be placed between the entry for IEEE Std 802.3-2015 1.4.277 'mixing segment' and 1.4.278 'multiport device'. If this is correct, it should be noted that IEEE P802.3bn is adding the entry '1.4.277a modulation error ratio (MER)'.

SuggestedRemedy

Suggest that the text '1.4.278a MultiGBASE-T' be changed to read '1.4.277b MultiGBASE-T'. Note that this subclause number may need to be swapped with IEEE P802.3bn once the approval order becomes more definitive.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.278a** *P* **23** *L* **16** # 104

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *BQ Align*

With the approval of the IEEE P802.3bq PAR modification, add 25GBASE-T to list.

SuggestedRemedy

Suggest that the text '... 10GBASE-T and 40GBASE-T.' be change to read '... 10GBASE-T, 25GBASE-T and 40GBASE-T.'

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.278a** *P* **23** *L* **17** # 105

Law, David — Hewlett Packard Enterp

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

Typo, additional full stop in standard designation.

SuggestedRemedy

Suggest that the text 'IEEE Std. 802.3' be changed to read 'IEEE Std 802.3'.

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.1.3** *P* **70** *L* **26** # 106

Law, David — Hewlett Packard Enterp

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

'XGMII' is defined as the '10 Gigabit Media Independent Interface' in IEEE Std 802.3-2015 subclause 1.4.76.

SuggestedRemedy

Suggest the text '10 Gb/s MEDIA INDEPENDENT INTERFACE' be changed to read '10 GIGABIT MEDIA INDEPENDENT INTERFACE' at the following locations:

[1] Page 70, line 26.
[2] Page 76, line 24.

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.2.1** *P* **71** *L* **43** # 107

Law, David — Hewlett Packard Enterp

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

Suggest that the term 'payload rates' be replaced with 'data rate' as used in subclause 46.3.1.1 and 46.3.2.1.

SuggestedRemedy

Suggest that text '... clock scaled to their respective payload rates.' be changed to read '... clock scaled to their respective data rates.'.

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.2.1** *P* **71** *L* **46** # 108

Law, David — Hewlett Packard Enterp

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

Based on the changes to Clause 46 in this draft suggest it isn't correct to state that 'The XGMII supports 2.5 Gb/s and 5 Gb/s operation (in addition to 10 Gb/s operation described in Clause 46)' since 2.5 Gb/s and 5 Gb/s operation is also included in Clause 46. In addition Clause 46 is already referenced in the paragraph above so this is a duplicate reference.

SuggestedRemedy

Suggest that the text 'The XGMII supports 2.5 Gb/s and 5 Gb/s operation (in addition to 10 Gb/s operation described in Clause 46) through its ...' be changed to read 'The XGMII supports 2.5 Gb/s and 5 Gb/s operation, in addition to 10 Gb/s operation, through its ...'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.1** *P* **75** *L* **18** # 109

Law, David — Hewlett Packard Enterp

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

Suggest '... in this document. This clause also specifies ...' should be changed to read '... in this clause. This clause also specifies ...'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.1.2** *P* **76** *L* **18** # 110

Law, David — Hewlett Packard Enterp

Comment Type **E** *Comment Status* **A** *BQ Align*

Suggest that 'AUTO-NEGOTIATION' be replaced with 'AN' in both the 25GBASE-T and 40GBASE-T layer diagrams since the abbreviation AN is defined in the list. If not, remove the abbreviation AN as it is currently not used.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Use the abbreviation in the 2.5GBASE-T and 5GBASE-T layer diagrams

Cl **126** *SC* **126.1.2** *P* **76** *L* **20** # 111

Law, David — Hewlett Packard Enterp

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

The solid line from the bottom of the PHYSICAL layer to the top of the MEDIUM should be dotted as are the two other similar lines.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.1.2** *P* **76** *L* **33** # 112

Law, David — Hewlett Packard Enterp

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

Suggest that '... over four pairs of balanced cabling.' should read '... over four pairs of balanced twisted-pair structured cabling.'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.1.3** *P* **79** *L* **20** # 113

Law, David — Hewlett Packard Enterp

Comment Type **TR** *Comment Status* **A** *Ref Model*

PMA_LINK.indication (link_status) is not shown connecting the PMA to the PCS in Figure 126-4 '2.5GBASE-T and 5GBASE-T service interfaces', is not listed in subclause 126.2.2 'PMA service interface', and is not used in the PCS state diagram on referenced in the PCS related text.

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 126-3 'Function block diagram'.
[2] Remove the 'link_status' signal from figure 126-5 'PCS reference diagram'.
[3] Remove the 'link_status' signal from the connection above the 'LINK MONITOR' block to the 'PMA SERVICE INTERFACE' in figure 126-19 'PMA reference diagram'.
[4] Update the variable definition for 'link_status' in subclause 126.4.5.1 '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.
Align with resolution of similar comment in BQ (#110) (ACCEPT IN PRINCIPLE - This is apparently correct - PHY implementors should check whether there are any uses of link_status within the PCS that should be documented in the standard.
The same issue exists in Clause 55, commenter may wish to file a maintenance request.)

Cl **126** *SC* **126.1.3** *P* **79** *L* **29** # 114

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *Ref Model*

The parameter 'scr_status' appears to only be used by the PMA Receive function (see subclause 126.4.2.4) and not by the PHY or Link control functions. In contrast the parameter 'pcs_status' appears to be used by the PHY and Link control functions (see Figure 126-26 and 126-27) and not by the PMA Receive function. Based on this, combining these two parameters on to a single line that connects to the PMA Receive, Link control, and PHY control functions doesn't seem to be the cleanest approach.

SuggestedRemedy

Suggest that:

[1] In Figure 126-3 separate lines be drawn from the PCS RECEIVE block (1) for 'scr_status' connecting to the PMA RECEIVE block, and (2) for 'pcs_status' connecting to both the LINK MONITOR and PHY CONTROL blocks.
[2] In Figure 126-5 separate lines be drawn from the PCS RECEIVE block for 'scr_status' and 'pcs_status' to the PMA service interface.
[3] In Figure 129-19 separate lines be drawn from the PMA service interface (1) for 'scr_status' connecting to the PMA RECEIVE block, and (2) for 'pcs_status' connecting to both the LINK MONITOR and PHY CONTROL blocks.

Response *Response Status* **C**

ACCEPT. (not in BQ)

Cl **126** *SC* **126.1.3.1** *P* **80** *L* **3** # 115

Law, David — Hewlett Packard Enterp

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

'XGMII' is defined as the '10 Gigabit Media Independent Interface' in IEEE Std 802.3-2015 subclause 1.4.76.

SuggestedRemedy

Suggest the text 'Ten Gigabit Media ...' be changed to read '10 Gigabit Media ...' at the following locations:

[1] Page 80, line 3.
[2] Page 83, line 15.
[3] Page 92, line 6.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.1.3.3** *P* **82** *L* **4** # 116

Law, David — Hewlett Packard Enterp

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

This subclause states that support for the EEE capability is advertised '... during the PMA_PBO_Exch state.'.

SuggestedRemedy

Either add a cross reference to the Figure 126–26 'PHY Control state diagram' or, since this is introduction text, change the text '... during the PMA_PBO_Exch state.' To read '... during link startup.'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
change the text '... during the PMA_PBO_Exch state.' To read '... during link startup.'.

Cl **126** *SC* **126.3.6.1** *P* **120** *L* **3** # 117

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **D** *State diagrams*

It appears the PCS 64B/65B Transmit state diagram is not controlled by the state of the PMA PHY Control State Diagram when EEE is not implemented. In this case, as stated in the definition for the pcs_data_mode variable in subclause 126.4.5.1, the 'PHY operates as if the value of this variable is TRUE'. Hence once 'pcs_reset = false' and the PHY enterers training, the MAC could send a packet (it does not take account of link_status) causing the PCS 64B/65B Transmit state diagram to start encoding the packet on to tx_coded even though the PHY is in training mode. This could then result in the transition from the tx_mode = SEND_T to SEND_N occurring mid packet resulting in the transmission of a truncated frame and an error at the receiver. Similarly when EEE is implemented, pcs_data_mode = true could occur mid packet with similar results.

SuggestedRemedy

Suggest that:

[1] A new 'TX_RESET' state be added to Figure 126–14 that is entered on open arrows of 'pcs_reset + !pcs_data_mode', sets 'tx_coded <= LBLOCK_T', and exited on 'T_TYPE(tx_raw) = C + LII' to the 'TX_INIT' state. This ensures reset is only exited during idle.
[2] The new 'TX_RESET' state is also entered until tx_mode = SEND_N using a suitable variable.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Task force to discuss.
This same state diagram control has been operational in 10GBASE-T systems without report of the problem indicated. If a change is needed, recommend commenter file a maintenance request on Clause 55.

Same as BQ Comment 140 (WITHDRAWN - Commenter may resubmit, preferably with figure)

Cl **126** *SC* **126.3.6.4** *P* **120** *L* **8** # 118

Law, David — Hewlett Packard Enterp

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

There seem to be three different formats used for when comparing T_TYPE(tx_raw) to a set of possible values On line 8 there is the example where the options are in brackets: 'T_TYPE(tx_raw) = (E + D + LI +T)'; on line 10 there is an example where they are not: 'T_TYPE(tx_raw) = C + LII'; and on line 16 the brackets are around the whole equation: 'T(T_TYPE(tx_raw) = C+LII)'. Suggest that the first example, where the options are listed in brackets where there is more than one, be used. And strictly speaking shouldn't these actually use the 'Indicates membership' character '?' rather than the '=' character. If so the first example 'T_TYPE(tx_raw) = (E + D + LI +T)' would read 'T_TYPE(tx_raw) ? {E, D, LI, T}'.

SuggestedRemedy

Please use a consistent format when comparing T_TYPE(tx_raw) and R_TYPE(rx_coded) to a set of possible values.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.4.2.4** *P* **129** *L* **35** # 119

Law, David — Hewlett Packard Enterp

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

Suggest that 'PMA Receive contains the ...' should read 'The PMA Receive function contains the ...'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.4.2.4** *P* **129** *L* **39** # 120

Law, David — Hewlett Packard Enterp

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

Suggest that '... shall allow LFER of less than ...' should read '... shall allow a LFER of less than ...'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Insert "an" to read:
'…shall allow an LFER of less than…"

Cl **126** *SC* **126.4.5.1** *P* **142** *L* **23** # 121

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *State diagrams*

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.

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 126.2.1.1).

Response *Response Status* **C**

ACCEPT.
See BQ Comment 144 (ACCEPTED)

Cl **126** *SC* **126.4.5.1** *P* **142** *L* **26** # 122

Law, David — Hewlett Packard Enterp

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

Suggest that '... PMA Link Monitor and ...' should read '... PMA Link Monitor state diagram and ...'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.4.6.1** *P* **147** *L* **8** # 123

Law, David — Hewlett Packard Enterp

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

Make the state box wide enough to fit the state name inside.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.4.6.1** *P* **147** *L* **45** # 124

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *State diagrams*

The variable 'pcs_status' is not defined in the PMA state diagram variables in subclause 126.4.5.1.

SuggestedRemedy

Suggest that variable description be added that reads:

pcs_status
The pcs_status parameter generated by the PCS and passed to the PMA via the PMA_SCRSTATUS.request primitive (see 126.2.2.5).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
PCS_status is defined under "Messages" (126.3.6.3) P117 L24, however, it is uppercase in PCS, in error.
Change "PCS_status" to "pcs_status" on throughout clause 126.

See BQ comment 147 (PCS_status is defined under "Messages" (which was deleted by another comment) (113.3.6.3)
P132 L9, however, it is uppercase in PCS, in error.
Implement suggested remedy AND
Change "PCS_status" to "pcs_status" on P132 L9 and throughout clause 113.)

Cl **126** *SC* **126.3.2.2** *P* **94** *L* **33** # 125

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **R** *State diagrams*

Subclause 126.3.2.2 states that when tx_mode = SEND_T the '... PCS Transmit generates sequences of code-groups (TAn, TBn, TCn, TDn) defined in 126.3.4.2 ...' and that when tx_mode = SEND_N the '... PCS Transmit function uses a 65B coding technique ...' but there seems to be no description of the transition from the tx_mode = SEND_T to SEND_N. I assume however the transition from the tx_mode = SEND_T to SEND_N state needs to ensure that the first LDPC frame sent is complete.

SuggestedRemedy

Suggest that a statement be added to subclause 126.3.2.2 that on the transition from the tx_mode = SEND_T to SEND_N the PCS shall ensure this results in the transmission a of complete first LDPC frame.

Response *Response Status* **C**

REJECT.
Task force to discuss
See BQ Comment 121 (REJECTED - A single frame error may be created in this case, this is considered acceptable.)

Cl **126** *SC* **126.3.2.2.4** *P* **95** *L* **43** # 126

Law, David — Hewlett Packard Enterp

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

The statement 'The PCS Transmit bit ordering shall conform to Figure 126–6.' appears to be a duplicate 'shall' statement to that found in the first paragraph of subclause 126.3.2.2 'PCS Transmit function' which reads 'The PCS Transmit function shall conform to ... and the PCS Transmit bit ordering in Figure 126–6.'.

SuggestedRemedy

Suggest that:

[1] The text 'The PCS Transmit bit ordering shall conform to Figure 126–6.' be changed to read 'The PCS Transmit bit ordering is shown in Figure 126–6.'.
[2] The subclause cross-reference for PICS items PCT3 be changed from 126.3.2.2.4 to 126.3.2.2.

Response *Response Status* **C**

ACCEPT.
See BQ comment 122 (ACCEPT)

Cl **126** *SC* **126.3.2.2.4** *P* **95** *L* **44** # 127

Law, David — Hewlett Packard Enterp

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

This subclause states that 'Note that these figures show the mapping from XGMII to 64B/65B block for a block containing eight data characters.' however the figure itself doesn't provide this note. Suggest it would be better to provide the note in respect to the figure on the figure itself.

SuggestedRemedy

Suggest that the note 'Note that this figure shows the mapping from XGMII to 64B/65B block for a block containing eight data characters.' be move to, or added to, Figure 126-6. A similar note should also be added to Figure 126-7. If not the text in the existing text 'Note that these figures show ...' should be changed to read 'Note that the figure shows ...' as there is only one figure.

Response *Response Status* **C**

ACCEPT.
See BQ comment 123 (ACCEPTED)

Cl **126** *SC* **126.3.2.2.5** *P* **96** *L* **4** # 128

Law, David — Hewlett Packard Enterp

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

On the left 32 bit word, the arrow for TXD<0> is pointing to the wrong bit position.

SuggestedRemedy

Suggest that the arrow point to leftmost bit of the byte.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.5** *P* **96** *L* **4** # 129

Law, David — Hewlett Packard Enterp

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

On the right 32 bit word, the arrow for TXD<31> is pointing to the wrong bit position.

SuggestedRemedy

Suggest that the arrow point to rightmost bit of the byte.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.5** *P* **96** *L* **4** # 130

Law, David — Hewlett Packard Enterp

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

Suggest the left word be marked 'First transfer' and the right word be marked 'Second transfer' as is done in Figure 126–7 'PCS Receive bit ordering'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.5** *P* **96** *L* **12** # 131

Law, David — Hewlett Packard Enterp

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

The 65B block is actually the output of the PCS 64B/65B Transmit state diagram (figure 126-14 and 126-15). See definition of tx_coded<64:0> in subclause 126.3.6.2.2 and description subclause 126.3.2.2.15 which states 'The contents of each block are contained in a vector tx_coded<64:0> ...'.

SuggestedRemedy

Suggest that in Figure 126–6:

[1] The text 'Output of encoder function 65B block' be changed to read 'Output of encoder function 65B block (see figure 126-14 and 126-15)'
[2] Label the 'Data/Ctrl header' bit as tx_coded<0> and bit 7 of D7 as tx_coded<64>.

Response *Response Status* **C**

ACCEPT.
See BQ Comment 124

(BQ was a straight ACCEPT)

Cl **126** *SC* **126.3.2.2.5** *P* **97** *L* **12** # 132

Law, David — Hewlett Packard Enterp

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

Suggest the subscripts be removed from D0 through D2 as subscripts aren't used elsewhere in the figure.

SuggestedRemedy

Chnage the subscripts D0 through D2 to be normal text.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.5** *P* **97** *L* **13** # 133

Law, David — Hewlett Packard Enterp

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

The 65B block is actually the input to the PCS 64B/65B Receive state diagram (figure 126-16 and 126-17). See definition of rx_coded<64:0> in subclause 126.3.6.2.2.'.

SuggestedRemedy

Suggest that:

[1] In Figure 126–7 the text 'Input to decoder function 65B block' be changed to read 'Input to decoder function 65B block (see figure 126-16 and 126-17)'
[2] in Figure 126–7 the 'Data/Ctrl header' bit is labelled as rx_coded<0> and bit 7 of D7 as rx_coded<64>.

Response *Response Status* **C**

ACCEPT.
See BQ Comment 126
implement [1]
do not implement [2] as it would make the diagram overly crowded

(BQ was a straight ACCEPT)

Cl **126** *SC* **126.3.2.2.6** *P* **98** *L* **22** # 134

Law, David — Hewlett Packard Enterp

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

Typo.

SuggestedRemedy

Suggest that 'XGMII encodes ...' be changed to read 'The XGMII encodes ...'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.6** *P* **98** *L* **26** # 135

Law, David — Hewlett Packard Enterp

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

Close brackets without open brackets.

SuggestedRemedy

Suggest that '... into a 7-bit C code).' be changed to read '... into a 7-bit C code.'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.11** *P* **100** *L* **39** # 136

Law, David — Hewlett Packard Enterp

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

Suggest that '... octet of TxD ...' should read '... octet of TXD ...'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.11** *P* **100** *L* **39** # 137

Law, David — Hewlett Packard Enterp

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

Suggest that '... TXD<0:7> and RXD<0:7>).' should read '… TXD<7:0> and RXD<7:0>).'

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.15** *P* **101** *L* **26** # 138

Law, David — Hewlett Packard Enterp

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

Suggest that the actual title of the state diagram be used, and a cross reference added.

SuggestedRemedy

Suggest that the text '... as specified in the transmit process state diagram.' be changed to read '... as specified in the PCS 64B/65B Transmit state diagram (see Figure 126–14 and 126-15).'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2.21** *P* **104** *L* **35** # 139

Law, David — Hewlett Packard Enterp

Comment Type **E** *Comment Status* **A** *Ref Model*

It is the tx_symb_vector parameter of the PMA_UNITDATA.request primitive that can be set to the value ALERT (see subclause 126.2.2.3.1). As a result of that the next time the PMA_UNITDATA.request message is sent it will have the value ALERT.

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.
See BQ comment 133 (ACCEPTED)

Cl **28** *SC* **28.3.1** *P* **27** *L* **7** # 140

Law, David — Hewlett Packard Enterp

Comment Type **E** *Comment Status* **A** *BZ Order*

Suggest the editing instructions should be based on inserting the new values alphabetically to remove a dependence on which amendment is approved first, it should also note that the subclause is also being modified by IEEE P802.3bq, but only if IEEE P802.3bq is approved first.

SuggestedRemedy

Suggest that:

[1] Update the editing instructions to read 'Insert new rows for 25GigT and 40GigT into the first list in subclause 28.3.1 (as modified by IEEE Std 802.3bq-201X), in alphabetical order:'.
[2] Add an editors note be added that reads 'Editor's note (to be removed prior to publication) If, once the approval order of the various amendments becomes settled, IEEE P802.3bz is to be approved prior to IEEE P802.3bq the editing instructions should be updated to remove reference to IEEE P802.3bq.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Update the editing instructions to read 'Insert new rows for 2.5GigT and 5GigT into the first list in subclause 28.3.1 (as modified by IEEE Std 802.3bq-201X), in alphabetical order:'

Cl **28** *SC* **28.3.1** *P* **27** *L* **8** # 141

Law, David — Hewlett Packard Enterp

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

The change to subclause 28.3.1 'State diagram variables' states that '2.5GigT' represents that the 2.5GBASE-T therefore the variables link_control and link_status would be designated 'link_control_2.5GigT' and 'link_status_2.5GigT' respectively for 2.5GBASE-T. the note for Figure 126–29 'Link Monitor state diagram' however states that 'The variables link_control and link_status are designated as link_control_2p5GigT and link_status_2p5GigT, respectively for 2.5GBASE-T'. Suggest that '2p5GigT' be used consistently to represent 2.5GBASE-T and therefore change the seven instances of '2.5GigT' to read '2p5GigT'.

SuggestedRemedy

Suggest that:

[1] The text '... rows for 2.5GigT and ..' be changed to read '... rows for 2p5GigT and ...' (page 27, line 8).
[2] The text '2.5GigT;' be changed to read '2p5GigT;' (page 27, line 10).
[3] The text '... assert link_status_2.5GigT=FAIL for ...' be changed to read '... assert link_status_2p5GigT=FAIL for ...' (page 165, line 50).
[4] The text '... link_status_2.5GigT (2.5GBASE-T) or ...'. be changed to read '... link_status_2p5GigT (2.5GBASE-T) or ...' (page 166, line 36).
[5] The text '... detected, link_status_2.5GigT (2.5GBASE-T) or ...' be changed to read '... detected, link_status_2p5GigT (2.5GBASE-T) or ...' (page 166, line 41).
[6] The text '... 28.3.1 (e.g., link_status_2.5GigT ...' be changed to read '... 28.3.1 (e.g., link_status_2p5GigT ...' (page 199, line 30).
[7] The text '2.5GigT represents that the 2.5GBASE-T ...' be changed to read '2p5GigT represents that the 2.5GBASE-T ...' (page 199, line 31).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement proposed remedy
Editor additionally to check the draft for all instances of 2.5GigT and replace to 2p5GigT

Cl **28** *SC* **28.3.2** *P* **27** *L* **26** # 142

Law, David — Hewlett Packard Enterp

Comment Type **E** *Comment Status* **A** *BQ Align*

IEEE P802.3bq draft D2.3 is changing '10 Gb/s' to read 'MultiGBASE-T', it is not adding '40 Gb/s'. Based on this the change shown here deleting '10/40 Gb/s' is not correct. In addition a note should be added to delete this change if IEEE P802.3bq is approved prior to IEEE P802.3bz since IEEE P802.3bq is making the same change.

SuggestedRemedy

Suggest that:

[1] The strike out text '10/40 Gb/s' should be changed to read '10 Gb/s'.
[2] An editors note that reads 'Editor's note (to be removed prior to publication) This change is also being made in IEEE P802.3bq. If, once the approval order of the various amendments becomes settled, IEEE P802.3bq is to be approved prior to IEEE P802.3bz, this change should be deleted.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment 34

Cl **28** *SC* **28.5.4.8** *P* **28** *L* **10** # 143

Law, David — Hewlett Packard Enterp

Comment Type **E** *Comment Status* **A** *BQ Align*

In item SD10, IEEE P802.3bq draft D2.3 is changing '10G' to read 'MG', it is not adding '!40G:M'. Based on this the change shown here deleting '!10G:M' and '!40G:M' is not correct. Similarly for item SD11.

SuggestedRemedy

Suggest that:

[1] The strike out text '!10G:M' and '!40G:M' should be changed to read '10' (see IEEE P802.3bq draft).
[2] An editors note that reads 'Editor's note (to be removed prior to publication) This change is also being made in IEEE P802.3bq. If, once the approval order of the various amendments becomes settled, IEEE P802.3bq is to be approved prior to IEEE P802.3bz, this change should be deleted.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
PIC will be deleted from draft based on BQ going first, and removing text unchanged from BQ.

Cl **30** *SC* **30.3.2.1.2** *P* **29** *L* **43** # 144

Law, David — Hewlett Packard Enterp

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

Not sure why the entries for '2.5GBASE-T' and '5GBASE-T' are being added after the last entry for aPhyType and aPhyTypeList.

SuggestedRemedy

Suggest that the text '... after the last entry:' be changed to read '... alphabetically': for 30.3.2.1.2 aPhyType and 30.3.2.1.3 aPhyTypeList.

Response *Response Status* **C**

ACCEPT.
(there was no reason, just needed to specify somewhere)

Cl **30** *SC* **30.5.1.1.24** *P* **32** *L* **3** # 145

Law, David — Hewlett Packard Enterp

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

While this is subclause 30.5.1.1.24, the change instruction reference 30.5.1.1.25. Also suggest change text rewording.

SuggestedRemedy

Suggest '... Change 30.5.1.1.25 aLDFastRetrainCount include ...' to read '... Change text of 30.5.1.1.24 aLDFastRetrainCount to include ...'.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.5.1.1.24** *P* **32** *L* **3** # 146

Law, David — Hewlett Packard Enterp

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

The attributes 'aLDFastRetrainCount' and 'aLPFastRetrainCount' are not part of the '10GBASE-T Operating Margin package (conditional)' but instead are part of the 'Energy-Efficient Ethernet (optional)' package, see IEEE Std 802.3-2015 Table 30–1e.

SuggestedRemedy

Change the editing instruction '... (as part of the MultiGBASE-T operating package) ...' to read '... (as part of the 'Energy-Efficient Ethernet package)...' for subclause 30.5.1.1.24 and 30.5.1.1.25. If the intent was to move these attributes, provide editing instructions for table 30-1e.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change editing instruction. No intent to move the attributes, do not add edit to Table 30-1e.

Cl **30** *SC* **30.5.1.1.25** *P* **32** *L* **19** # 147

Law, David — Hewlett Packard Enterp

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

While this is subclause 30.5.1.1.25, the change instruction reference 30.5.1.1.24. Also suggest change text rewording.

SuggestedRemedy

Suggest '... Change 30.5.1.1.24 aLPFastRetrainCount include ...' to read '... Change the text of 30.5.1.1.25 aLPFastRetrainCount to include ...'.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.6.1.1.5** *P* **32** *L* **51** # 148

Law, David — Hewlett Packard Enterp

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

Not sure why the entries for '2.5GBASE-T' and '5GBASE-T' are being added after the last entry for aAutoNegLocalTechnologyAbility.

SuggestedRemedy

Suggest that the text '... after the last entry:' be changed to read '... alphabetically:'.

Response *Response Status* **C**

ACCEPT.

Cl **4** *SC* **4.4.2** *P* **25** *L* **5** # 149

Law, David — Hewlett Packard Enterp

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

The IEEE P802.3by amendment, which is likely to publish before this draft, is also modifying this note which should be recorded in the editing instructions. In addition the text, as changed by IEEE P802.3by should be shown to ensure that they are not 'backed out' by this amendment.

SuggestedRemedy

Suggest that

[1] The text '... in Table 4-2 as shown:' be changed to read '... in Table 4-2 (as modified by IEEE Std 802.3by-201X) as shown:'.
[2] The column heading '40 Gb/s and 100 Gb/s' be changed to read '25 Gb/s, 40 Gb/s, and 100 Gb/s'.

Response *Response Status* **C**

ACCEPT.

Cl **4** *SC* **4.4.2** *P* **25** *L* **41** # 150

Law, David — Hewlett Packard Enterp

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

The IEEE P802.3by amendment, which is likely to publish before this draft, is also modifying this note which should be recorded in the editing instructions. In addition the text, as changed by IEEE P802.3by should be shown to ensure that they are not 'backed out' by this amendment.

SuggestedRemedy

Suggest that

[1] The text 'Change Note 4 as follows:' be changed to read 'Change Note 4 (as modified by IEEE Std 802.3by-201X) as follows:'.
[2] The text '... 5Gb/s, and 10 Gb/s operation, the ...' be changed to read '... 5Gb/s, 10 Gb/s and 25 Gb/s operation, the ...'.
[3] The text '... at the XGMII receive signals ...' be changed to read '... at the XGMII or 25GMII receive signals ...'.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.13.1** *P* **46** *L* **43** # 151

Law, David — Hewlett Packard Enterp

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

This change states that '... This bit is a reflection of the PCS_status variable defined in ... in 126.3.6.1 for 2.5GBASE-T and 5GBASE-T ...'. I can't find mention of PCS_status variable in subclause 126.3.6.1 'State diagram conventions', nor in 126.3.6.2.2 'Variables'. the nearest mention I could find was in subclause 126.3.6.3 'Messages' however this just states 'Indicates whether the PCS is in a fully operational state. (See 126.3.7.1.)'. Based on this suggest the reference should be to 126.3.7.1.

SuggestedRemedy

Suggest the text '... in 126.3.6.1 for 2.5GBASE-T and 5GBASE-T ...' be changed to read ... in 126.3.7.1 for 2.5GBASE-T and 5GBASE-T ...'.

Response *Response Status* **C**

ACCEPT.

Cl **46** *SC* **46.1** *P* **63** *L* **20** # 152

Law, David — Hewlett Packard Enterp

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

Line 20 states that the XGMII '... is capable of supporting up to 10 Gb/s operation.' yet on line 26 it is states that 'The XGMII is rate scalable and may support rates of 2.5 Gb/s, 5 Gb/s, and 10 Gb/s.'.

SuggestedRemedy

Suggest that since the XGMII can only operate a three fixed rates that '.. is capable of supporting up to 10 Gb/s operation.' be changed to read '... is capable of supporting 2.5 Gb/s, 5 Gb/s, and 10 Gb/s operation.'.

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1** *P* **67** *L* **6** # 153

Law, David — Hewlett Packard Enterp

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

Subclause 78.1 is also being modified by IEEE P802.3by, IEEE P802.3bp and IEEE P802.3bq.

SuggestedRemedy

Suggest that '... into Table 78-1 with ...' be changed to read '... into Table 78-1 (as modified by IEEE Std 802.3by-201X,
IEEE Std 802.3bq-201X and TBD) with ...'.

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **9** *L* **1** # 154

Law, David — Hewlett Packard Enterp

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

Please update the frontmatter to the latest version found at <http://ieee802.org/3/tools/framemaker/P802_3xx_D0p1_version_2p5.zip>.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.1.5** *P* **82** *L* **46** # 155

Law, David — Hewlett Packard Enterp

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

Not sure what a 'logical XGMII' is. Shouldn't implementations be compatible at the XGMII, if implemented.

SuggestedRemedy

Suggest the text '... at the MDI and at a logical XGMII, if implemented.'. be changed to read '... at the MDI and at the XGMII, if implemented.'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.2.1.2** *P* **84** *L* **12** # 156

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *Ref Model*

This subclause states that 'This primitive informs the PCS, PMA PHY Control function, and the Auto-Negotiation algorithm about the status of the underlying link.'. 'PMA_LINK.indication' however is not listed in subclause 126.2.2 'PMA service interface', so is not passed to the PCS, and 'PMA_LINK.indication', nor the 'link_status' parameter communicated by this primitive, are used in Figure 126–26 'PHY Control state diagram'.

SuggestedRemedy

Suggest the text 'This primitive informs the PCS, PMA PHY Control function, and the Auto-Negotiation algorithm about the status of the underlying link.' be changed to read 'This primitive informs the Auto-Negotiation algorithm about the status of the underlying link.'.

Response *Response Status* **C**

ACCEPT.
See BQ comment 113 (ACCEPTED)

Cl **126** *SC* **126.2.1.2.1** *P* **84** *L* **19** # 157

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **R** *Ref Model*

While not used by 2.5GBASE-T or 5GBASE-T, for completeness, and to match the definition in Clause 28, suggest that the READY value be listed as well.

SuggestedRemedy

Suggest that:

[1] The text '... can take on one of two values: FAIL or OK.' be changed to read '... can take on one of three values: FAIL, READY, or OK.'.
[2] Add the text 'READY For 2.5GBASE-T and 5GBASE-T link_status does not take the value READY.' between 'FAIL' and 'OK'.

Response *Response Status* **C**

REJECT.
Keep alignment with resolution of similar BQ comment, which was adjusted in response to earlier comments. (REJECTED)

Cl **126** *SC* **126.2.1.2.3** *P* **84** *L* **33** # 158

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *Ref Model*

This subclause states that 'The effect of receipt of this primitive is specified in 126.3.6.2.' however 'PMA_LINK.indication', nor the 'link_status' parameter communicated by this primitive, are referenced in subclause 126.3.6.2 'State diagram parameters' for the PCS state diagrams. Instead this primitive is generated by the Link Monitor state diagram and used by Auto-Negotiation.

SuggestedRemedy

Suggest the text 'The effect of receipt of this primitive is specified in 126.3.6.2.' 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.
Align with resolution of similar BQ comment (ACCEPTED)

Cl **126** *SC* **126.2.2.3.2** *P* **87** *L* **40** # 159

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *Ref Model*

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 126.2.2.3.1). Shouldn't this case also be covered, if so the simplest approach would appear to be to send a PMA_UNITDATA.request message every clock cycle.

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.
Align with resolution of similar BQ comment (ACCEPTED)

Cl **126** *SC* **126.3.2.1** *P* **93** *L* **48** # 160

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *State diagrams*

This subclause states that 'PCS Reset sets pcs_reset=ON while ...' however subclause 126.3.6.2.2 'Variables' defines pcs_reset as a Boolean.

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT. (BQ comment ACCEPTED)

Cl **126** *SC* **126.3.2.2** *P* **94** *L* **3** # 161

Law, David — Hewlett Packard Enterp

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

The Transmit state diagram is in Figure 126–14 and 126–15.

SuggestedRemedy

Suggest that:

[1] The text '... Transmit state diagram in Figure 126–14 and ...' to read '... Transmit state diagram in Figures 126–14 and 126–15, and ...'.
[2] The Value/Comment field for PICS item PCT1 be changed to read 'See Figures 126–14 and 126–15'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2** *P* **94** *L* **7** # 162

Law, David — Hewlett Packard Enterp

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

Suggest that the actual title of the state diagram be used.

SuggestedRemedy

Suggest that the text '... in the transmit process state diagram that ....' be changed to read '... in the PCS 64B/65B Transmit state diagram that ...'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.2** *P* **94** *L* **15** # 163

Law, David — Hewlett Packard Enterp

Comment Type **E** *Comment Status* **R** *State diagrams*

This paragraph states '... the transmit channel is in normal mode ...' however 'normal mode' is not described until five paragraph below where it is stated 'In the normal mode of operation, the PMA_TXMODE.indication message has the value SEND_N ...'. In addition, it seems some of this text in this paragraph is duplicative of the text five paragraphs below. For example it states '... the PCS Transmit process then scramble the bits of the 65B blocks ...', five paragraphs below it states '... During transmission, the 65B bits are scrambled by the PCS using a PCS scrambler ...'.

Note: I have submitted another comment on this paragraph in respect to the need to include a 'shall' statement.

SuggestedRemedy

Suggest that paragraph four be deleted, with some of its content combined in to the ninth paragraph. The ninth paragraph would then 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 process shall continuously generates 65B blocks based upon the TXD <31:0> and TXC <3:0> signals on the XGMII. The subsequent functions of the PCS Transmit process then scramble the bits of the 65B blocks, pack the resulting scrambled blocks, prepends and auxiliary bit, and appends 97 zeros, all of which are then processed by a low density parity check (LDPC) encoder. The appended zeros are then replaced by vendor discretionary randomized bits and joint mapped into a transmit LDPC frame of PAM16 symbols. Transmit data-units are sent to the PMA service interface via the PMA_UNITDATA.request primitive.

Response *Response Status* **C**

REJECT.
See BQ comment 119
Proposed text has been clear evidenced by Clause 55 resulting in interoperable 10GBASE-T implementations.

(BQ resolution: REJECT - Proposed text has been clear evidenced by Clause 55 resulting in interoperable 10GBASE-T
implementations. This needs to be balanced with the risk of losing information in the existing formulation (e.g., the number of bits to each encoder).
Commenter may consider resubmitting to the first sponsor ballot.)

Cl **126** *SC* **126.3.2.2** *P* **94** *L* **30** # 164

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *State diagrams*

While this subclause states that the PCS transmit function shall meet the PCS state diagram (Figures 126-14 and 126-15) and bit ordering (Figure 126-6) 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.

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.
See BQ comment 120 (ACCEPTED)

Cl **126** *SC* **126.3.2.3** *P* **104** *L* **52** # 165

Law, David — Hewlett Packard Enterp

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

Correct the cross reference.

SuggestedRemedy

Suggest that the text '... in Figure 126–16 ...' be changed to read '... in Figure 126–16 and Figure 126–17 ...'.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.2.3** *P* **105** *L* **13** # 166

Law, David — Hewlett Packard Enterp

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

Subclause 126.3.2.3 'PCS Receive function' states that '... the auxiliary bit and the trailing zero-fill bits are stripped; and the 64B/65B ordered sets are converted to 64-bit data blocks to obtain the signals RXD<31:0> and RXC<3:0> for transmission to the XGMII.'.

Isn't this description missing the descrambling stage that has to occur after the auxiliary bit and the trailing zero-fill bits are stripped (see Figure 126-7) and aren't these '64B/65B blocks' rather than '64B/65B ordered sets'. In addition suggest this this text should mention that the 64B/65B mapping to the XGMII is performed by the PCS 64B/65B Receive state diagrams by decoding the output of the scrambler, rx_coded<64:0>.

SuggestedRemedy

Suggest the text '... with error correction; the auxiliary bit and the trailing zero-fill bits are stripped; and the 64B/65B ordered sets are converted to 64-bit data blocks to obtain the signals RXD<31:0> and RXC<3:0> for transmission to the XGMII.' be changed to read '... with error correction; the auxiliary bit and the trailing zero-fill bits are then stripped; descrambling is then performed. This process generates the 64B/65B block vector rx_coded<64:0> which is then decoded to form the XGMII signals RXD<31:0> and RXC<3:0> as specified in the PCS 64B/65B Receive state diagram (see Figure 126–16 and 126-17).'.

Response *Response Status* **C**

ACCEPT. (Similar BQ comment was ACCEPTED)

Cl **126** *SC* **126.3.2.3** *P* **105** *L* **21** # 167

Law, David — Hewlett Packard Enterp

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

Suggest the text '... by setting the parameter scr_status to OK.' be changed to read '... by setting the scr_status parameter of the PMA_SCRSTATUS.request primitive to OK.'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.6.2.2** *P* **114** *L* **8** # 168

Law, David — Hewlett Packard Enterp

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

Subclause 126.1.6 'Conventions in this clause' states that 'The notation used in the state diagrams follows the conventions of 21.5.' and IEEE Std 802.3 Table 21–1 'State diagram operators' defines 'Equals (a test of equality)' as '='.

SuggestedRemedy

Change the four instances of '==' to read '='.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.6.3** *P* **117** *L* **15** # 169

Law, David — Hewlett Packard Enterp

Comment Type **T** *Comment Status* **A** *State diagrams*

Delete the subclause 126.3.6.3 'Messages', a subclause 126.3.6.2 'State diagram parameters' 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 126-16 and 126-17 'PCS 64B/65B Receive state diagram' are 'rx_coded' which is the 'Input to decode function 65B block' in Figure 126-7 '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 126-14 and 126-15 'PCS 64B/65B Transmit state diagram' are 'tx_coded' which is the 'Output of encoder function 65B block' in Figure 126-6 '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 126.3.6.3 'Messages'.

Response *Response Status* **C**

ACCEPT. (ACCEPTED)

Cl **45** *SC* **45-211b** *P* **56** *L* **10** # 170

Graba, Jim — Broadcom Corporation

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

Registers reporting link partner advertising should be read only. Bits 7.63.0 (line 10) and 7.63.1 (line 14) are both shown to be R/W.

SuggestedRemedy

Change the read/write capability to RO for bits 7.63.0 and 7.631.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.3.7.2** *P* **118** *L* **34** # 171

Feyh, German — Broadcom Corporation

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

lfer_timer window (nominally 125xS us for 2.5GBASE-T and 5GBASE-T).
lfer_timer window is already defined in 126.3.6.2.3 Timers. Redundant definition confuses.

SuggestedRemedy

remove (nominally 125xS us for 2.5GBASE-T and 5GBASE-T) from text.

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.5.3.2** *P* **156** *L* **43** # 172

Zimmerman, George — CME Consulting

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

Include transmit linearity test for 2.5G which simulates the stress of a far-end signal into the transmitter

SuggestedRemedy

Replace editor's note, with: "Reviewers are encouraged to consider either specifying an additional test mode to include the 2dB PBO for the new 2.5GBASE-T test, or, modifying the test so it does not require 2dB PBO."
Add new figure for test fixture after 126-34 entitled Test Fixture 4 , as shown on page 7 of Farjadrad_3bz_01a_1115.pdf

Insert at page 157 line 4:
Additionally, for 2.5GBASE-T, when in test mode 4, at 2dB PBO, and observing the spectrum of the differential signal output at the MDI using transmitter test fixture 4, for each pair, while injecting a 45 MHz sine wave from the signal generator so that it has an amplitude 4 dB below the peak of the transmitter at the MDI, with no intervening cable, the transmitter nonlinear distortion mask is defined as follows: The SFDR of the transmitter, with dual tone inputs as specified in test mode 4, shall meet the requirement that:
SFDR >= -5.5 + min { 52, 58-20log10(f/25)
where f is the maximum frequency of the two test tones in MHz and SFDR is the ratio in dB of the minimum RMS value of either input tone to the RMS value of the worst intermodulation product in the frequency range of 1 MHz to 100 MHz

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.7.3.1** *P* **176** *L* **31** # 173

Zimmerman, George — CME Consulting

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

Delete background noise term in Salz analysis, as it cannot not significantly effect the result. (implement Motion 5 from November IEEE 802.3bz meeting)

SuggestedRemedy

MOTION 5:
Remove the background noise term in Equation 126-36 and on lines 31 and 48 of page 176 of 802.3 bz draft 1.1.
M: George ZimmermanS: Jon Lewis
(Technical >= 75%)
Y: 20N: 4A:7 MOTION PASSES

Response *Response Status* **C**

ACCEPT.

Cl **126** *SC* **126.7.3.1** *P* **177** *L* **22** # 174

Zimmerman, George CME Consulting

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

Implement MOTION 6 from IEEE 802.3bz November 2015 Task Force meeting:

Remove the (TBD) associated with SNR_linkreq on page 177 line 22 of 802.3bz draft 1.1
M: George ZimmermanS: Shadi AbuGhazaleh
(Technical >= 75%)
Y: 26N: 0A: 5 MOTION PASSES

SuggestedRemedy

See comment

Response *Response Status* **C**

ACCEPT.