

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

CI 126 SC 126.7.2 P 167 L 25 # 1 [REDACTED]  
Sedarat, Hossein Aquantia

Comment Type T Comment Status D 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 correspond 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.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Editorial license to implement suggested remedy.

CI 126 SC 126.7.2.4.2 P 171 L 41 # 2 [REDACTED]  
Sedarat, Hossein Aquantia

Comment Type T Comment Status D Cabling

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

*SuggestedRemedy*

Replace 62 with 57.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.7.2 P 171 L 40 # 3 [REDACTED]  
Sedarat, Hossein Aquantia

Comment Type E Comment Status D 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 distinction in NEXT less obvious.

*SuggestedRemedy*

Use one set of equation whenever they are identical.

Proposed Response Response Status W

PROPOSED REJECT.

The first equation is 5e (2.5G). 2nd equation is extrapolation for (5G) in some cases not identical to 1st. The rationale is to implement 5e spec for 2.5 and extrapolation to 250 MHz for 5G. See text....126.7.2 Link segment transmission parameters.

The link segment transmission parameters for 2.5GBASE-T are equivalent to ISO/IEC 11801 Class D and ANSI/TIA-568-C.2 Category 5e. The link segment transmission parameters for 5GBASE-T are equivalent to ISO/IEC 11801 Class D and ANSI/TIA-568-C.2 Category 5e specifications with the upper frequency extended to 250 MHz and appropriate adjustments for length when applicable as specified in ISO/IEC TR 11801-9904 and TIA TSB-5021.

CI 126 SC 126.7.2.4.5 P 172 L 52 # 4 [REDACTED]  
Sedarat, Hossein Aquantia

Comment Type T Comment Status D Cabling

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

*SuggestedRemedy*

Remove the upper bound.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See comment#9

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Cl 126 SC 126.5.4.4 P 160 L 39 # 5  
 Sedarat, Hossein Aquantia  
 Comment Type T Comment Status D PMA Electrical  
 The bandwidth is borrowed from 10GBASE-T specifications and is too wide.  
 SuggestedRemedy  
 Replace "400 MHz" with "200xS MHz".  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Task force to discuss whether having a fixed bandwidth that includes modeling noise from 10GBASE-T sources has value.

Cl 126 SC 126.5.4.4 P 161 L 1 # 6  
 Sedarat, Hossein Aquantia  
 Comment Type T Comment Status D 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, respectively"

Proposed Response Response Status W  
 PROPOSED 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 D Cabling  
 The max NEXT loss of 65 dB is not inline with the TIA spec of 60 dB.  
 SuggestedRemedy  
 replace 65 with 60.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.7.2.4.4 P 171 L 41 # 8  
 Sedarat, Hossein Aquantia  
 Comment Type TR Comment Status D 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 specifications.  
 SuggestedRemedy  
 Replace 32.1 with 35.1 in those 2 expressions.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.7.2.4.4 P 172 L 22 # 9  
 Sedarat, Hossein Aquantia  
 Comment Type TR Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED 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 D 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"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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Cl 45 SC 45.2.3.13 P 46 L 22 # 11  
 Jones, Peter Cisco

Comment Type E Comment Status D 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.

Proposed Response Response Status W

PROPOSED 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 D 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.

Proposed Response Response Status W

PROPOSED 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 D 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 with a clause name as the cross refence in clause 45.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Fix the reference to clause 126. Consider the table, aligning with resolution of a similar comment on BQ

Cl 45 SC 45.2.1.66 P 39 L 36 # 14  
 Jones, Peter Cisco

Comment Type E Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

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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 references "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 W

PROPOSED ACCEPT IN PRINCIPLE.  
 Task force to discuss - need to keep in alignment with BQ

Cl 45 SC 45.2.3.13.4 P 47 L 11 # 16  
 Jones, Peter Cisco

Comment Type E Comment Status D BQ Align

In "45.2.3.13.4 BASE-R and 10MultiGBASE-T PCS high BER (3.32.1)" it contains 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".

Proposed Response Response Status W

PROPOSED 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 D 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.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Task force to discuss - this phrase is written in Barrass

Cl 126 SC 126.7.3.1 P 173 L 52 # 18  
 Jones, Peter Cisco

Comment Type E Comment Status D 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?

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace TBD with TIA TSB 5021

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Cl 126 SC 126.12.3.1 P 184 L 38 # 19  
 Jones, Peter Cisco  
 Comment Type E Comment Status D 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 appropriate.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 Editor to renumber PICs

Cl 125 SC 125.1.2 P 69 L 18 # 20  
 Jones, Peter Cisco  
 Comment Type ER Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED 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 W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Recommend doubling to 80  
 Task force to discuss

Cl 126 SC 126.6.1 P 161 L 54 # 22  
 Jones, Peter Cisco  
 Comment Type T Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED 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 D 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Editor given license to update references

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CI 126 SC 126.7.2.4.3 P 170 L 48 # 24  
 Jones, Peter Cisco

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED 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).

CI 126 SC 126.8.2 P 178 L 51 # 25  
 Jones, Peter Cisco

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 46 SC 46.6.3 P 64 L 41 # 26  
 Jones, Peter Cisco

Comment Type TR Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.2.2.4.2 P 88 L 15 # 27  
 Jones, Peter Cisco

Comment Type TR Comment Status D 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

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Replace 3200 MHz by Sx400MHz

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Cl 46 SC 5 P 300 L # 28  
 Bains, Amrik Cisco System  
 Comment Type ER Comment Status D 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"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 2.1.62 P 38 L 34 # 29  
 Bains, Amrik Cisco System  
 Comment Type E Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 3.2.2.5 P 96 L 8 # 30  
 Bains, Amrik Cisco System  
 Comment Type E Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 2.2.4.2 P 88 L 15 # 31  
 Bains, Amrik Cisco System  
 Comment Type T Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED 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 D 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)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Task Force to discuss

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CI 45 SC 45.2.7.10.4b P 51 L 25 # 33  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D 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".  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 28 SC 28.3.2 P 27 L 26 # 34  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D 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'  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 28 SC 28.5.3 P 27 L 44 # 35  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D EZ  
 Reference to clause 1.4 is unuseful. Refer to 1.4.278a  
 SuggestedRemedy  
 see comment  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Align with BQ out of this meeting - cross reference likely to change to .277b

CI 30 SC 30.3.2.1.2 P 30 L 2 # 36  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.1 P 34 L 20 # 37  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D EZ  
 Cross references to 45.2.1.70-77 should be active, not external cross references  
 SuggestedRemedy  
 Change cross references as in comment  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.7.11a P 53 L 6 # 38  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D Editorial  
 "Insert four new clauses after 45.2.7.11.7a (see IEEE P802.3bq draft)." should 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.



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Cl 45 SC 45.2.7.14c P 56 L 37 # 39  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D EZ  
 Hanging ".."  
 SuggestedRemedy  
 delete ".."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 78 SC 78.5 P 68 L 16 # 43  
 Zimmerman, George CME Consulting  
 Comment Type ER Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.5.3.3 P 59 L 32 # 40  
 Zimmerman, George CME Consulting  
 Comment Type E Comment Status D EZ  
 Delete Table Title  
 SuggestedRemedy  
 See comment  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.2.1.1 P 35 L 11 # 44  
 Zimmerman, George CME Consulting  
 Comment Type ER Comment Status D EZ  
 5 Gb/s should be underlined as editing instruction is 'change'  
 SuggestedRemedy  
 see comment  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 28 SC 28.5.4.8 P 28 L 13 # 41  
 Zimmerman, George CME Consulting  
 Comment Type ER Comment Status D 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'  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.2.1.65.1 P 39 L 30 # 45  
 Zimmerman, George CME Consulting  
 Comment Type ER Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 30 SC 30.3.2 P 29 L 42 # 42  
 Zimmerman, George CME Consulting  
 Comment Type ER Comment Status D EZ  
 Typo: PHYdevicePHYdevice managed object  
 SuggestedRemedy  
 Change PHYdevicePHYdevice to PHYdevice  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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CI 45 SC 45.2.3.1.2 P 42 L 47 # 46  
 Zimmerman, George CME Consulting

Comment Type ER Comment Status D 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'

Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.3.13.1 P 46 L 44 # 47  
 Zimmerman, George CME Consulting

Comment Type ER Comment Status D 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'

Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.7.10 P 51 L 11 # 48  
 Zimmerman, George CME Consulting

Comment Type ER Comment Status D 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'

Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.7.11 P 52 L 14 # 49  
 Zimmerman, George CME Consulting

Comment Type ER Comment Status D 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'

Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.7.13 P 53 L 39 # 50  
 Zimmerman, George CME Consulting

Comment Type ER Comment Status D 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.

Proposed Response Response Status W  
 PROPOSED ACCEPT.

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

Cl 45 SC 45.2.7.14c P 57 L 11 # 51  
 Zimmerman, George CME Consulting  
 Comment Type ER Comment Status D 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  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.5.3.6 P 60 L 9 # 52  
 Zimmerman, George CME Consulting  
 Comment Type T Comment Status D PICS  
 \*C25T and \*C5T are already included in the \*CT option, now generalized for MultiGBASE-T  
 SuggestedRemedy  
 Delete \*C25T and \*C5T  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.5.3.9 P 61 L 11 # 53  
 Zimmerman, George CME Consulting  
 Comment Type T Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.5.4.3 P 160 L 20 # 54  
 Cibula, Peter Intel Corporation  
 Comment Type T Comment Status D 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 Annex 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 requirement 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."

Proposed Response Response Status W  
 PROPOSED ACCEPT.

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Cl **Annex** SC **113A** P **206** L **14** # **55**  
 Brillhart, Theodore Fluke Networks

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

The mode conversion 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 reader, 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

Proposed Response Response Status **W**

PROPOSED 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.

Cl **45** SC **45.2.1.78** P **41** L **24** # **56**  
 Lo, William Marvell Semiconductor

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

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

*SuggestedRemedy*

See above

Proposed Response Response Status **W**

PROPOSED 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 **D** Cabling

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

*SuggestedRemedy*

delete including screen management

Proposed Response Response Status **W**

PROPOSED 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 **D** BQ Align

include 25GBASE-T

*SuggestedRemedy*

as stated

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **126.5** SC **126.5.2.1** P **155** L **17** # **59**  
 Moffitt, Bryan CommScope

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

B not identified

*SuggestedRemedy*

delete

Proposed Response Response Status **W**

PROPOSED REJECT. While commenter is correct, the test fixture is identical to that in Clause 55, and differences with the Clause 55 figure may confuse the reader. (see BQ comment 75)

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

Cl 126.5 SC 126.5.2.1 P 155 L 41 # 60  
 Moffitt, Bryan CommScope  
 Comment Type E Comment Status D EZ  
 S should be identified here  
 SuggestedRemedy  
 as stated  
 Proposed Response Response Status W  
 PROPOSED REJECT.  
 S is defined for the clause up front and used throughout.

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

Cl 126.5 SC 126.5.3.2 P 156 L 49 # 61  
 Moffitt, Bryan CommScope  
 Comment Type E Comment Status D EZ  
 SFDR should be identified  
 SuggestedRemedy  
 The Spurious-Free Dynamic Range (SFDR) of the transmitter  
 Proposed Response Response Status W  
 PROPOSED REJECT.  
 SFDR is defined in Clause 1.5 for 802.3

Cl 126.5 SC 126.5.4.4 P 161 L 1 # 64  
 Moffitt, Bryan CommScope  
 Comment Type E Comment Status D PMA Electrical  
 four significant digits seems excessive especially given baluns and coupling  
 SuggestedRemedy  
 use -142  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 OBE by Comment 6

Cl 126.5 SC 126.5.3.4 P 158 L 6 # 62  
 Moffitt, Bryan CommScope  
 Comment Type E Comment Status D EZ  
 The equation should be labeled  
 SuggestedRemedy  
 as stated  
 Proposed Response Response Status W  
 PROPOSED REJECT.  
 The equation is labled, at line 18.

Cl 126.6 SC 126.6.2 P 166 L 44 # 65  
 Moffitt, Bryan CommScope  
 Comment Type E Comment Status D BQ Align  
 25G is missing  
 SuggestedRemedy  
 add  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Add 25GBASE-T to list.

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

CI 126.7 SC 126.7.2 P 167 L 32 # 66  
Moffitt, Bryan CommScope

Comment Type E Comment Status D 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.

Proposed Response Response Status W

PROPOSED 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.

CI 126.7 SC 126.7.2.1 P 168 L 26 # 67  
Moffitt, Bryan CommScope

Comment Type E Comment Status D EZ  
the word using is missing

SuggestedRemedy

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

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126.7 SC 126.7.2.1 P 168 L 46 # 68  
Moffitt, Bryan CommScope

Comment Type T Comment Status D Cabling  
should have a measurement floor

SuggestedRemedy

3 dB

Proposed Response Response Status W

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

CI 126.7 SC 126.7.2.4.4 P 171 L 40 # 69  
Moffitt, Bryan CommScope

Comment Type T Comment Status D Cabling  
is this ACRF consistent with PSACRF?

SuggestedRemedy

fix

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See comment#8.

CI 126.7 SC 126.7.3.1 P 174 L 1 # 70  
Moffitt, Bryan CommScope

Comment Type T Comment Status D 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

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(1)Step 1 disturbers would need to include the frequency ranges for 10000BASE-T and 10G.Response>>>The frequencies are ranges are bounded by disturbed link segment.  
(2)Also suggest using average IL for each segment to simplify the PBO determination  
Response>>>For committee discussion

CI 126.7 SC 126.7.3.1 P 174 L 18 # 71  
Moffitt, Bryan CommScope

Comment Type T Comment Status D 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

Proposed Response Response Status W

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

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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 W

PROPOSED REJECT. 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 W

PROPOSED REJECT.

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 D 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

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve with comment#70 use of average IL

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 W

PROPOSED REJECT.

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 D PMA Electrical

balun should have some specification

SuggestedRemedy

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

Proposed Response Response Status W

PROPOSED REJECT.

Specification unnecessary, proven test setup.

Cl 126.5 SC 126.5.3.4 P 159 L 10 # 77  
Moffitt, Bryan CommScope

Comment Type T Comment Status D 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

Proposed Response Response Status W

PROPOSED REJECT.

Peak power level in equation IS different, because of log10(S) term.

Vertical axis label is clear.

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Cl 126.7 SC 126.7.2.4.2 P 170 L 42 # 89  
 Moffitt, Bryan CommScope  
 Comment Type E Comment Status D EZ  
 should be MDNEXT floor  
 SuggestedRemedy  
 change to MDNEXT  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126.7 SC 126.7.2.4.4 P 172 L 10 # 90  
 Moffitt, Bryan CommScope  
 Comment Type T Comment Status D Cabling  
 not required or used  
 SuggestedRemedy  
 delete discussion and eq 126-23. replace with ACRF floor 65  
 Proposed Response Response Status W  
 PROPOSED 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 D Cabling  
 all parameters for post install  
 SuggestedRemedy  
 delete once installed  
 Proposed Response Response Status W  
 PROPOSED 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 D 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.  
 Proposed Response Response Status W  
 PROPOSED 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 D 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.  
 Proposed Response Response Status W  
 PROPOSED 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 D Cabling  
 reference equation 126-29 for 1000B-T  
 SuggestedRemedy  
 as stated  
 Proposed Response Response Status W  
 PROPOSED ACCEPT. Change Equation (126-28) for 1000BASE-T to 126-29



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Cl 126.7 SC 126.7.3.1 P 174 L 25 # 95  
Moffitt, Bryan CommScope  
Comment Type E Comment Status D Cabling  
K subscript should be j  
SuggestedRemedy  
as stated  
Proposed Response Response Status W  
PROPOSED ACCEPT.

Cl 126.7 SC 126.7.3.1.1 P 177 L 27 # 98  
Moffitt, Bryan CommScope  
Comment Type E Comment Status D Cabling  
delete section - not relevant  
SuggestedRemedy  
Proposed Response Response Status W  
PROPOSED ACCEPT.

Cl 126.7 SC 126.7.3.1 P 174 L 25 # 96  
Moffitt, Bryan CommScope  
Comment Type E Comment Status D Cabling  
cleanup  
SuggestedRemedy  
move eq 126-29 up to line 27 and delete lines 41-45  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Editor to implement all possible cleanup.

Cl 126.7 SC 126.7.3.1.2 P 177 L 47 # 99  
Moffitt, Bryan CommScope  
Comment Type E Comment Status D Cabling  
delete section - not relevant  
SuggestedRemedy  
Proposed Response Response Status W  
PROPOSED 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 W  
PROPOSED REJECT. Simplification does not provide improvement over current text.

Cl 00 SC 0 P 1 L 1 # 100  
Law, David Hewlett Packard Enterp  
Comment Type E Comment Status D 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](http://www.ieee802.org/3/WG_tools/spreadsheet/802d3_TFR_WGB_comments.xls)> in future  
Task Force reviews.  
SuggestedRemedy  
See comment.  
Proposed Response Response Status W  
PROPOSED ACCEPT. No change required in draft

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Cl 1 SC 1.4.74b P 22 L 43 # 101  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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'.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 1 SC 1.4.76 P 22 L 45 # 102  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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):  
 -----  
 <l>Change the definition for Gigabit Media Independent Interface (XGMII) as follows:</l>  
 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.)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 1 SC 1.4.278a P 23 L 15 # 103  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 1 SC 1.4.278a P 23 L 16 # 104  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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.'  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 1 SC 1.4.278a P 23 L 17 # 105  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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'.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.1.3 P 70 L 26 # 106  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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Cl 125 SC 125.2.1 P 71 L 43 # 107  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.'  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.2.1 P 71 L 46 # 108  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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 ...'.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.1 P 75 L 18 # 109  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D EZ  
 Suggest '... in this document. This clause also specifies ...' should be changed to read '... in this clause. This clause also specifies ...'.  
 SuggestedRemedy  
 See comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.1.2 P 76 L 18 # 110  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.1.2 P 76 L 20 # 111  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.1.2 P 76 L 33 # 112  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D Cabling  
 Suggest that '... over four pairs of balanced cabling.' should read '... over four pairs of balanced twisted-pair structured cabling.'  
 SuggestedRemedy  
 See comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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CI 126 SC 126.1.3 P 79 L 20 # 113  
 Law, David Hewlett Packard Enterp

Comment Type TR Comment Status D 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.'

Proposed Response Response Status W

PROPOSED REJECT.  
 Align with resolution of similar comment in BQ (#110)

CI 126 SC 126.1.3 P 79 L 29 # 114  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.1.3.1 P 80 L 3 # 115  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 126 SC 126.1.3.3 P 82 L 4 # 116  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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.'

Proposed Response Response Status W

PROPOSED 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 enters 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 W

PROPOSED ACCEPT IN PRINCIPLE.  
 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

Cl 126 SC 126.3.6.4 P 120 L 8 # 118  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 126 SC 126.4.2.4 P 129 L 35 # 119  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D EZ

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

SuggestedRemedy

See comment.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 126 SC 126.4.2.4 P 129 L 39 # 120  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D EZ

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

SuggestedRemedy

See comment.

Proposed Response Response Status W

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

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Cl 126 SC 126.4.5.1 P 142 L 23 # 121  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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).  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 See BQ Comment 144

Cl 126 SC 126.4.5.1 P 142 L 26 # 122  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D EZ  
 Suggest that '... PMA Link Monitor and ...' should read '... PMA Link Monitor state diagram and ...'.  
 SuggestedRemedy  
 See comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.4.6.1 P 147 L 8 # 123  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D EZ  
 Make the state box wide enough to fit the state name inside.  
 SuggestedRemedy  
 See comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.4.6.1 P 147 L 45 # 124  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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).  
 Proposed Response Response Status W  
 PROPOSED 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

Cl 126 SC 126.3.2.2 P 94 L 33 # 125  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Task force to discuss  
 See BQ Comment 121

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Cl 126 SC 126.3.2.2.4 P 95 L 43 # 126  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.  
 See BQ comment 122

Cl 126 SC 126.3.2.2.4 P 95 L 44 # 127  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.  
 See BQ comment 123

Cl 126 SC 126.3.2.2.5 P 96 L 4 # 128  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 126 SC 126.3.2.2.5 P 96 L 4 # 129  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 126 SC 126.3.2.2.5 P 96 L 4 # 130  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

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CI 126 SC 126.3.2.2.5 P 96 L 12 # 131  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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>.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 See BQ Comment 124  
 implement suggestion [1]  
 do not implement [2], as it would make the diagram overly crowded

CI 126 SC 126.3.2.2.5 P 97 L 12 # 132  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.3.2.2.5 P 97 L 13 # 133  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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>.

Proposed Response Response Status W

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

CI 126 SC 126.3.2.2.6 P 98 L 22 # 134  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D EZ

Typo.

SuggestedRemedy

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

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.3.2.2.6 P 98 L 26 # 135  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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.'

Proposed Response Response Status W

PROPOSED ACCEPT.



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Cl 126 SC 126.3.2.2.11 P 100 L 39 # 136  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D EZ  
 Suggest that '... octet of TxD ...' should read '... octet of TXD ...'.  
 SuggestedRemedy  
 See comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.3.2.2.11 P 100 L 39 # 137  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D EZ  
 Suggest that '... TXD<0:7> and RXD<0:7>.' should read '... TXD<7:0> and RXD<7:0>'.  
 SuggestedRemedy  
 See comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.3.2.2.15 P 101 L 26 # 138  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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).'.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.3.2.2.21 P 104 L 35 # 139  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.'.

Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 See BQ comment 133

Cl 28 SC 28.3.1 P 27 L 7 # 140  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.'

Proposed Response Response Status W  
 PROPOSED 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.'

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Cl 28 SC 28.3.1 P 27 L 8 # 141  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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).

Proposed Response Response Status W

PROPOSED 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 D 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.

Proposed Response Response Status W

PROPOSED 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 D 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.

Proposed Response Response Status W

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

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Cl 30 SC 30.3.2.1.2 P 29 L 43 # 144  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED 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 D 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 ...'.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 30 SC 30.5.1.1.24 P 32 L 3 # 146  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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.  
 Proposed Response Response Status W  
 PROPOSED 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 D 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 ...'.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 30 SC 30.6.1.1.5 P 32 L 51 # 148  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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':.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 4 SC 4.4.2 P 25 L 5 # 149  
 Law, David Hewlett Packard Enterp  
 Comment Type E Comment Status D 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'.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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CI 4 SC 4.4.2 P 25 L 41 # 150  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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 ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.3.13.1 P 46 L 43 # 151  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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 ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 46 SC 46.1 P 63 L 20 # 152  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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.'.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 78 SC 78.1 P 67 L 6 # 153  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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 ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI FM SC FM P 9 L 1 # 154  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D EZ

Please update the frontmatter to the latest version found at <[http://ieee802.org/3/tools/framemaker/P802\\_3xx\\_D0p1\\_version\\_2p5.zip](http://ieee802.org/3/tools/framemaker/P802_3xx_D0p1_version_2p5.zip)>.

SuggestedRemedy

See comment.

Proposed Response Response Status W

PROPOSED ACCEPT.

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

Cl 126 SC 126.1.5 P 82 L 46 # 155  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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.'  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 126 SC 126.2.1.2 P 84 L 12 # 156  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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.'  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 See BQ comment 113

Cl 126 SC 126.2.1.2.1 P 84 L 19 # 157  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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'.  
 Proposed Response Response Status W  
 PROPOSED REJECT.  
 Keep alignment with resolution of similar BQ comment, which was adjusted in response to earlier comments.

Cl 126 SC 126.2.1.2.3 P 84 L 33 # 158  
 Law, David Hewlett Packard Enterp  
 Comment Type T Comment Status D 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.'  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 Align with resolution of similar BQ comment

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

CI 126 SC 126.2.2.3.2 P 87 L 40 # 159  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.'

Proposed Response Response Status W

PROPOSED ACCEPT.  
 Align with resolution of similar BQ comment

CI 126 SC 126.3.2.1 P 93 L 48 # 160  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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 ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.3.2.2 P 94 L 3 # 161  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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'.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.3.2.2 P 94 L 7 # 162  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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 ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 126 SC 126.3.2.2 P 94 L 15 # 163  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D State diagrams

This paragraph states '... the transmit channel is in normal mode ...' however 'normal mode' is not described until five paragraphs 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.

Proposed Response Response Status W

PROPOSED REJECT.  
 See BQ comment 119

Proposed text has been clear evidenced by Clause 55 resulting in interoperable 10GBASE-T implementations.

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

Cl 126 SC 126.3.2.2 P 94 L 30 # 164  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.  
 See BQ comment 120

Cl 126 SC 126.3.2.3 P 104 L 52 # 165  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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 ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 126 SC 126.3.2.3 P 105 L 13 # 166  
 Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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).'

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 126 SC 126.3.2.3 P 105 L 21 # 167  
 Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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.

Proposed Response Response Status W

PROPOSED ACCEPT.

IEEE P802.3bz D1.1 2.5G/5GBASE-T 2nd Task Force review comments

Cl 126 SC 126.3.6.2.2 P 114 L 8 # 168

Law, David Hewlett Packard Enterp

Comment Type E Comment Status D 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 '='.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 126 SC 126.3.6.3 P 117 L 15 # 169

Law, David Hewlett Packard Enterp

Comment Type T Comment Status D 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 PCS state diagrams.

*SuggestedRemedy*

Delete the subclause 126.3.6.3 'Messages'.

Proposed Response Response Status W

PROPOSED ACCEPT.