The draft makes a number of edits "as modified by 802.3cg", but here leaves out 802.3cg as the basis for what it amends. It is still early to say what the order of publication is, but we should be consistent. This way reviewers know to look at 802.3cg edits during commenting.

Suggested Remedy
The draft makes a number of edits "as modified by 802.3cg", but here leaves out 802.3cg as the basis for what it amends. It is still early to say what the order of publication is, but we should be consistent. This way reviewers know to look at 802.3cg edits during commenting.

Suggested Remedy
Change "as amended by IEEE Std 802.3cb-2018, IEEE Std 802.3bt-2018, and IEEE Std 802.3cd-201x." to "IEEE Std 802.3cb-2018, IEEE Std 802.3bt-2018, IEEE Std 802.3cd-201x, and IEEE Std 802.3cg-201x (TBD)."

Proposed Response
Change "as amended by IEEE Std 802.3cb-2018, IEEE Std 802.3bt-2018, and IEEE Std 802.3cd-201x." to "IEEE Std 802.3cb-2018, IEEE Std 802.3bt-2018, IEEE Std 802.3cd-201x, and IEEE Std 802.3cg-201x (TBD)."

Proposed Response
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.

Suggested Remedy
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.

Proposed Response
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.

Suggested Remedy
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.

Proposed Response
For the IEC reference being added replace " - " before "Part", "Test", and "Triaxial" with an em dash with no spaces on either side. This is also true for other "-" separators in the title.

Suggested Remedy
For the IEC reference being added replace " - " before "Part", "Test", and "Triaxial" with an em dash with no spaces before and after.

Proposed Response
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.

Proposed Response
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.

Proposed Response
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.

Proposed Response
"This amendment to IEEE Std 802.3-2018 adds point-to-point 2.5 Gb/s Physical Layer (PHY), 5 Gb/s Physical Layer (PHY) and 10 Gb/s Physical Layer (PHY) specifications and management parameters for operation on automotive cabling in an automotive application." - lack of oxford comma, and chained "and 10 Gb/s specifications and management parameters" is clunky and can be misread.
IEEE Std 802.3bt-2018 has deleted definition 1.4.294, so the definition for MultiGBASE-T is now 1.4.333

Suggested Remedy
Change the editing instruction to:
Insert new definition for MultiGBASE-T after 1.4.333 MultiGBASE-T (re-numbered from 1.4.334 due to the deletion of 1.4.294 by IEEE Std 802.3bt-2018) as follows:
Renumber the new definition as 1.4.333a

Proposed Response

Comment Status X
Response Status O

Anslow, Pete
Ciena

IEEE Std 802.3bt-2018 has now been approved.

Suggested Remedy
Change all occurrences of "IEEE Std 802.3cb-201x" to "IEEE Std 802.3cb-2018" throughout the draft.

Proposed Response

Comment Status X
Response Status O

Anslow, Pete
Ciena

The "Notes for Editors" should not be in the draft

Suggested Remedy
Delete the "Notes for Editors"

Proposed Response

Comment Status X
Response Status O

Anslow, Pete
Ciena
<table>
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<tr>
<td>&quot;[Notes for editors... (through) ... modified.]&quot; - this note isn't to be included in review drafts, per its text. Also applies to clause 78.</td>
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<td>Suggested Remedy</td>
<td>Delete &quot;[Notes for editors... modified.]&quot; P23 L3 to 9. Make same deletion in Clause 78, P50.</td>
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**Comment:** Zimmerman, George CME:ADI,Aquantia,AP Prop 3rd T

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<td>L27</td>
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<tr>
<td>&quot;Change the sixth sentence&quot; - Since we use XGMII we should not modify not this sentence, but are already governed by the language in the 8th paragraph relating to XGMII and 2.5G, 5G, and 10G links and the Clause 46 link fault signalling state diagram. &quot;For 2.5 Gb/s, 5 Gb/s, 10 Gb/s, and 25 Gb/s the enumerations map to value of the link_fault variable within the Link Fault Signaling state diagram (Figure 46–11) as follows: the values OK and Link Interruption map to the enumeration &quot;available&quot;, the value Local Fault maps to the enumeration &quot;not available&quot; and the value Remote Fault maps to the enumeration &quot;remote fault&quot;.....&quot;</td>
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<tr>
<td>Suggested Remedy</td>
<td>Delete P24 L27 -33 editing instruction and edit. If &lt;COMMENT MGMT 2&gt; is accepted or accepted in principle, do not delete &quot;30.5.1.1.4 aMediaAvailable&quot;, otherwise, if there are no other edits to this subclause following comment resolution, delete the header.</td>
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**Comment:** Zimmerman, George CME:ADI,Aquantia,AP Prop 3rd T

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<tr>
<td>10GBASE-T1 MDI needs to be added to text of clause 44.</td>
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<tr>
<td>Suggested Remedy</td>
<td>Add editing instruction and text to change item d in list following 2nd paragraph of 44.1.3 to read: &quot;&lt;US&gt; indicates start or end of underscored insertion) d) The MDI as specified in Clause 53 for 10GBASE-LX4, in Clause 54 for 10GBASE-CX4, in Clause 55 for 10GBASE-T, in Clause 68 for 10GBASE-LRM, &lt;US&gt;in Clause 149 for 10GBASE-T1,&lt;US&gt; and in Clause 52 for other PMD types.&quot;</td>
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**Comment:** Zimmerman, George CME:ADI,Aquantia,AP Prop 3rd T

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<tr>
<td>Nomenclature in Table 44-1 doesn't adequately distinguish from 10GBASE-T which also uses a 64B/65B PCS.</td>
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<tr>
<td>Suggested Remedy</td>
<td>Change &quot;64B/65B PCS &amp; 1-pair PMA&quot; to &quot;1-pair RS-FEC PCS &amp; PMA&quot;</td>
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</table>
Cl  44 SC 44.1.4.4 P29 L 26 # 51
Wienckowski, Natalie General Motors
Comment Type E Comment Status X
Incorrect line width on bottom of 10GBASE-CX4/68 cell.
SuggestedRemedy
Fix line width to match the rest of the table.
Proposed Response Response Status O

Cl  44 SC 44.1.30 P27 L 50 # 110
McClellan, Brett Marvell
Comment Type T Comment Status X
NOTE 1 as written makes it appear that XGMII is required for other PHYs. It should be consistent across all PHYs.
SuggestedRemedy
delete "NOTE 1 – XGMII IS OPTIONAL", change "NOTE 2" to "NOTE 1"
Proposed Response Response Status O

Cl  45 SC 45.2.1 P31 L 8 # 6
Anslow, Pete Ciena
Comment Type E Comment Status X
The use of ":" between numbers to indicate a range is discouraged by the IEEE style guide.
"adjust" is not a valid editing instruction.
There are two ":" at the end
SuggestedRemedy
Change the editing instruction to:
Insert new rows in Table 45-3 for registers 1.2309 to 1.2316 after the row for register 1.2308, and change the reserved row as shown (unchanged rows not shown):
Proposed Response Response Status O

Cl  45 SC 45.2.1 P31 L 17 # 7
Anslow, Pete Ciena
Comment Type E Comment Status X
The rows for registers 1.2309 to 1.2316 are associated with an "Insert" editing instruction, so should not be underlined.
SuggestedRemedy
Remove the underline from the rows for registers 1.2309 to 1.2316
Proposed Response Response Status O

Cl  45 SC 45.2.1 P31 L 25 # 8
Anslow, Pete Ciena
Comment Type E Comment Status X
In the row for register 1.2313, "45.2.1.196" should be a cross-reference
In the row for register 1.2315, "45.2.1.1988" has a spurious "8" character at the end.
SuggestedRemedy
In the row for register 1.2313, make "45.2.1.196" a cross-reference
In the row for register 1.2315, delete the "8" at the end of "45.2.1.1988"
Proposed Response Response Status O

Cl  45 SC 45.2.1 P31 L 29 # 54
Lo, William Axonne Inc.
Comment Type E Comment Status X
45.2.1.1988 should be 45.2.1.198
SuggestedRemedy
See comment
Proposed Response Response Status O
Comment Type: E  Comment Status: X
45.2.1.198 has an extra "8" (probably sitting there next to the cross reference)

Suggested Remedy
Change to cross-ref for 45.2.1.198

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
"2317 through 1.32767" missing space

Suggested Remedy
Change "2317 through" to "2317 through"

Proposed Response  Response Status: O

Comment Type: T  Comment Status: X
Need to add 2.5GBASE-T1 and 5GBASE-T1 to the 2.5G/5G PMA/PMD extended ability register (Register 1.21)

Suggested Remedy
Change Table 45-21 as modified by IEEE Std 802.3cb-201x and adjust the reserved row to allocate bits 5 and 4 to 5GBASE-T1 and 2.5GBASE-T1 ability, respectively. Insert 45.2.1.18.aa and 45.2.1.18.ab before 45.2.1.18b for 5GBASE-T1 and 2.5GBASE-T1 ability, to read as follows: "45.2.1.18.aa 5GBASE-T1 ability (1.21.5) When read as a one, bit 1.21.5 indicates that the PMA/PMD is able to operate as a 5GBASE-T1 PMA type. When read as a zero, bit 1.21.5 indicates that the PMA is not able to operate as a 5GBASE-T1 PMA type."

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
The deleted reserved row in Table 45-149 appears to have an underlined and strikethrough space between "1" and "x" and a strikethrough space missing between the two "x" characters

Suggested Remedy
Remove the underline from the strikethrough space between "1" and "x" and add a strikethrough space between the two "x" characters

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
In the editing instruction "(as modified by 802.3cg)as" should be "(as modified by IEEE Std 802.3cg-201x) as"

Note the missing space after the ")" character

Suggested Remedy
In the editing instruction change:
"(as modified by 802.3cg)as" to: "(as modified by IEEE Std 802.3cg-201x) as"

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
In the editing instruction change:
"(as modified by 802.3cg)as" to:
"(as modified by IEEE Std 802.3cg-201x) as"

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
Insert 45.2.1.192 through 45.2.1.196

Suggested Remedy
In the editing instruction change:
"Insert 45.2.1.192 and 45.2.1.196" to:
"Insert 45.2.1.192 through 45.2.1.196"

Proposed Response  Response Status: O
Comment Type E Comment Status X
In the text of 45.2.1.192 "MultiGBASE-T1 PMA register" should be "MultiGBASE-T1 PMA control register"
Suggested Remedy
Change: "MultiGBASE-T1 PMA register" to: "MultiGBASE-T1 PMA control register"

Proposed Response Response Status O

Comment Type E Comment Status X
In the left hand column of Table 45-155a, "1.2309.13:12" should not wrap across two lines
Suggested Remedy
Make the "Bit(s)" column wider so that "1.2309.13:12" does not wrap across two lines

Proposed Response Response Status O

Comment Type T Comment Status X
I believe this is the standard statement; however, 802.3ch requires link in 100 ms so it should return to normal operation on exit from reset or low power mode within 100 ms.
Suggested Remedy
Change: The data path of the MultiGBASE-T1 PMA, depending on type and temperature, may take many seconds to run at optimum error ratio after exiting from reset or low-power mode.
To: The data path of the MultiGBASE-T1 PMA, depending on type and temperature, may take up to 100 ms to run at optimum error ratio after exiting from reset or low-power mode.

Proposed Response Response Status O
In the heading of 45.2.1.192.4, "(1.2309.14)" should be "(1.2309.10:9)"

Suggested Remedy:
In the heading of 45.2.1.192.4, change "(1.2309.14)" to "(1.2309.10:9)"

Comment Status: X
Response Status: O
Proposed Response: Pete Ciena

There are 3 registers for precoder setting.
1.2304.10:9 - Test mode 3 precoder setting
1.2311.3:2 - Precoder setting you want
1.2312.3:2 - Precoder setting that the link partner wants.
The description in 1.2304.10:9 captures some functionality of 1.2312.3:2 which is redundant and may cause confusion.

There is also a wrong register reference.

Suggested Remedy:
Page 33, line 16
1) Change Transmit Precoder setting to: Test mode 3 Transmit Precoder setting
2) Replace the entire paragraph in 45.2.1.192.4 to
Bits 1.2309.10:9 control the current precoder setting of the transmitter, as defined in 149.3.2.2.19 in the variable precoder_type during test mode 3 (register 1.2313.15:13 = 3). During normal operation, these bits are ignored.
3) 45.2.1.195.2 - delete:
   In normal operation, this value shall mirror the value in the MultiGBASE-T1 PMA control register bits 1.2309.10:9
4) Change 45.2.1.192.4 title to Test mode 3 transmitter precoder setting (1.2309.10:9)

Comment Status: X
Response Status: O
Proposed Response: William Axonne Inc.
Comment Type: T
Comment Status: X
Receive fault should be latching high to be useful. 802.3cg d2p2 made this change and it survived comment resolution.

Suggested Remedy:
Change R/W entry for 1.2310.1 to be RO/LH, add "LH = Latching High" to footnote a, and add "The receive fault bit shall be implemented with latching high behavior." to the end of the paragraph in 45.2.1.193.6 (P35 L37).

Proposed Response: O

---

Comment Type: E
Comment Status: X
"either bit 1.2318.11 or bit 1.0.11" should be "either bit 1.2309.11 or bit 1.0.11"

Suggested Remedy:
Change "1.2318.11" to "1.2309.11"

Proposed Response: O

---

Comment Type: T
Comment Status: X
This comment applies to 45.2.1.194 and 45.2.1.195
We defined RS interleaving but have not assigned registers to them.

Suggested Remedy:
Assign to respective tables
1.2311.12:11 - Interleave Requested
1.2312.12:11 - Link partner interleave Requested
For both registers
00 = L=4 for 10GBASE-T1, L=2 for 5GBASE-T1 (Reserved for 2.5GBASE-T1)
01 = L=2 for 10GBASE-T1, L=1 for 5GBASE-T1 (Reserved for 2.5GBASE-T1)
10 = L=1 for 10GBASE-T1 (Reserved for 5GBASE-T1 and 2.5GBASE-T1)
11 = Reserved

45.2.1.194.x Interleave Requested (1.2311.12:11)
Bits 1.2311.12:11 control the Reed Solomon interleave setting requested by the PHY as described in 149.3.2.2.17. This is communicated to the link partner via Infofields as specified in 149.4.2.4.3.

45.2.1.195.x Link partner Interleave Requested (1.2312.12:11)
Bits 1.2312.12:11 contains the Reed Solomon interleave setting requested by the link partner as described in 149.3.2.2.17. This is communicated by the link partner via Infofields as specified in 149.4.2.4.3.

Proposed Response: O
Grammar is a bit confusing.

Suggested Remedy

Replace first sentence with:

Bits 1.2311.3:2 control the precoder setting requested by the PHY.

Proposed Response

Response Status: O

Grammar is a bit confusing.

Suggested Remedy

Replace first sentence with:

Bits 1.2312.3:2 contains the precoder setting requested by the link partner.

Proposed Response

Response Status: O

In the heading of 45.2.1.196.1, "(1.2315.15:13)" should be "(1.2313.15:13)"

Suggested Remedy

In the heading of 45.2.1.196.1, change "(1.2315.15:13)" to "(1.2313.15:13)"

Proposed Response

Response Status: O

In Table 45-155e, the Test mode control bits should be R/W

Suggested Remedy

Change the entry in the R/W column to "R/W" and also change footnote a to "RO = Read only, R/W = Read/Write"

Proposed Response

Response Status: O

IEEE uses an en-dash as a minus sign and also it should not be on a different line from the number.

Suggested Remedy

Since this draft appears to be written using FrameMaker version 12, this can be fixed by changing the minus sign to an en-dash (Ctrl-q Shift-p) and ensuring that under Format, Document, Text Options, en-dash does not appear in the Allow Line Breaks After list.

Proposed Response

Response Status: O
Anslow, Pete Ciena

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

IEEE uses an en-dash as a minus sign

**SuggestedRemedy**

Change the minus sign to an en-dash (Ctrl-q Shft-p) here and also on line 37

**Proposed Response** Response Status O

---

Anslow, Pete Ciena

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

It is preferable to use "Rx" rather than "RX" to be an abbreviation of receiver.

**SuggestedRemedy**

Change "RX" to "Rx" in 3 places in 45.2.1.199 (including the title) to align with the name in Table 45-3

**Proposed Response** Response Status O

---

McClellan, Brett Marvell

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

The RX signal power register in MultiGBASE-T PHYs was a byproduct of the power backoff (PBO) function which doesn't exist in MultiGBASE-T1 PHYs.

**SuggestedRemedy**

Delete clause 45.2.1.199 and remove references to register 1.2316.

**Proposed Response** Response Status O
### Comment Type: E
#### Comment Status: X

The draft is not consistent regarding the names of registers 3.2309 through 3.2312, 3.2314 through 3.2317, 3.2318 through 3.2319, and 3.2320 through 3.2321. In table 45-176, these registers have had "<0:7>" or "<8:11>" added to the name. In 45.2.3.73 and 45.2.3.75 the register names do not include "<0:7>". In 45.2.3.76 and 45.2.3.77 "<8:11>" appears in the incorrect place in the title (should be before "register") and not at all for the other places the register name appears. In Table 97-6 "<0:7>" or "<8:11>" is missing from the names.

#### Suggested Remedy
Either:
- delete the additions of "<0:7>" and "<8:11>" as they don't seem to be necessary or:
- change all instances of each register name to include "<0:7>" or "<8:11>" as noted in the comment.

#### Proposed Response
Anslow, Pete Ciena

#### Response Status: O

### Comment Type: E
#### Comment Status: X

The subclause column of Table 45-176 is missing cross-references to 45.2.3.76 through 45.2.3.80 in the inserted rows.

#### Suggested Remedy
In the subclause column of Table 45-176 add underlined cross-references to 45.2.3.76 through 45.2.3.80 in the inserted rows.

#### Proposed Response
Anslow, Pete Ciena

#### Response Status: O

### Comment Type: E
#### Comment Status: X

Registers 3.2318 through 3.2321 more accurately reflect the 'OAM status message' defined in 149.3.8.2.12 for MultiGBASE-T1 PHYs.

#### Suggested Remedy
Change names of registers and Link partner registers from "MultiGBASE-T1 OAM message" to "MultiGBASE-T OAM status message" in Table 45-176 and in 45.2.3.76, Table 45-244a, 45.2.3.77, and Table 45-244b; with editorial license to change anywhere else needed.

#### Proposed Response
Anslow, Pete Ciena

#### Response Status: O

### Comment Type: E
#### Comment Status: X

The entry for "3.2318 through 3.32767" in Table 45-176 should be shown as changing to "3.2325 through 3.32767".

#### Suggested Remedy
Show the "18" in strikethrough and add "25" in underline font.

#### Proposed Response
Anslow, Pete Ciena

#### Response Status: O

### Comment Type: E
#### Comment Status: X

The editing instruction says "unchanged rows not shown" so the last row of Table 45-176 should just contain "...

#### Suggested Remedy
Replace the last row with "..."

#### Proposed Response
Anslow, Pete Ciena

#### Response Status: O
Cl 45 SC 45.2.3 P43 L1 # 112
McClellan, Brett Marvell

Comment Type E Comment Status X
missing editorial instructions for table 45-244

SuggestedRemedy
Insert editorial instruction "Change Table 45-244 as follows." and move instruction and text prior to 45.2.3.76.

Proposed Response Response Status O

Cl 45 SC 45.2.3.73 P41 L1 # 87
Lo, William Axonne Inc.

Comment Type T Comment Status X
This comment affects 45.2.3.73, 45.2.3.75, 45.2.3.76, and 45.2.3.77
OAM messaging only applies to the first 8 octets. The remaining 4 octets are always updated independent of the handshake mechanism. To the text is technically not correct, and I think there is a better way to highlight the difference between multi-gig vs 1000BASE-T1.

SuggestedRemedy
45.2.3.73:
Delete:
For 1000BASE-T1, this is the complete message, but for MultiGBASE-T1, the remaining 4 octets are contained in registers 3.2328 and 3.2329.

45.2.3.75:
Delete:
For 1000BASE-T1, this is the complete message, but for MultiGBASE-T1, the remaining 4 octets are contained in registers 3.2320 and 3.2321.

45.2.3.76:
Add sentence at the end:
1000BASE-T1 does not implement these registers.

45.2.3.77:
Add sentence at the end:
1000BASE-T1 does not implement these registers.

Proposed Response Response Status O

Cl 45 SC 45.2.3.74.1 P42 L20 # 80
Lo, William Axonne Inc.

Comment Type T Comment Status X
This comment affects 45.2.3.74.1 and 45.2.3.77
The paragraph from 1000BASE-T1 in 45.2.3.74.1 also applies to Multigig. The new text inserted is not correct as registers 3.2320 to 3.2321 are always updated independent of the messaging process.

SuggestedRemedy
45.2.3.74.1:
Delete: for 1000BASE-T1 and shall self-clear when register 3.2321 is read for MultiGBASE-T1 PHYs

45.2.3.77:
Delete:
For MultiGBASE-T1 PHYs, register 3.2313.15 shall be cleared when register 3.2321 is read.

Proposed Response Response Status O
In Table 45-244a, the "Name" column has unnecessary line wraps.

**Suggested Remedy**
- Increase the width of the "Name" column and decrease the width of the "Description" column to remove the line wraps.

**Proposed Response**
- Change the width of the "Name" column and decrease the width of the "Description" column.

"MultiGBASE-T1" should not split across two lines.

**Suggested Remedy**
- Replace the hyphen with a non-breaking hyphen [Esc - h (three key presses)]

**Proposed Response**
- Replace the hyphen with a non-breaking hyphen.

Notes should have paragraph tag "Note" applied.

**Suggested Remedy**
- Apply paragraph tag "Note" to the note.

**Proposed Response**
- Apply paragraph tag "Note" to the note.
<table>
<thead>
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<th>Comment Type</th>
<th>Comment Status</th>
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</tr>
<tr>
<td>TR</td>
<td>X</td>
<td>Response Status</td>
<td>O</td>
</tr>
</tbody>
</table>

**Comment Type E**
- **Comment Status X**
- **Proposed Response**

IEEE does not use the term "section" in editing instructions.
Space missing before "(" 

**Suggested Remedy**
- Change "Change Section 45.2.9.3.2(as..." to "Change 45.2.9.3.2 (as..."

**Proposed Response**
- Response Status O

**Comment Type E**
- **Comment Status X**
- **Suggested Remedy**
  - Add 45.5.3 PICS for clause 45 to the draft

**Proposed Response**
- Response Status O

**Comment Type E**
- **Comment Status X**
- **Suggested Remedy**
  - Add 45.5.3 PICS to the draft, with editorial license to fill out, and an editor's note for commenters to review text and add PICS as needed prior to draft 2.0.

**Proposed Response**
- Response Status O

**Comment Type E**
- **Comment Status X**
- **Suggested Remedy**
  - 2.5GBase-T1 Min/Max should both be 10.24

**Proposed Response**
- Response Status O

**Comment Type E**
- **Comment Status X**
- **Suggested Remedy**
  - 10GBaes-T1 Min/Max should both be 2.56

**Proposed Response**
- Response Status O

**Comment Type E**
- **Comment Status X**
- **Suggested Remedy**
  - Delete "section" here and on line 22

**Proposed Response**
- Response Status O

**Comment Type E**
- **Comment Status X**
- **Suggested Remedy**
  - Change 149.4.2.5.10 to 149.4.2.4.5 and delete highlighting (the section isn't going to change...)

**Proposed Response**
- Response Status O
The section title for 97.3.8.3 needs to change too, to reflect the generalization of the BASE-T1 OAM register mapping.

Suggested Remedy:
Change title of 97.3.8.3 from "State diagram variable to 1000BASE-T1 OAM register mapping" to "State diagram variable to BASE-T1 OAM register mapping".

Proposed Response: Response Status O

As far as I can tell, a Type F PoDL PSE and PD has requirements identical to a Type B PoDL PSE and PD. Unless there is a difference in an electrical parameter, we should not be defining a new type.

Suggested Remedy:
Delete current edit to 104.1.3 and all other clause 104 edits, and add the following edit to 104.1.3: Insert new fourth sentence (after "A Type B or Type C PSE and Type B or Type C PD is compatible with 1000BASE-T1 PHYs."): "A Type B PSE and Type B PD is compatible with 2.5GBASE-T1, 5GBASE-T1 and 10GBASE-T1 PHYs.".

Alternatively, add requirements to show what is different about the new type.

Proposed Response: Response Status O

Need PICS for clause 104

Suggested Remedy:
Add 104.9 into the draft as a placeholder. If Type F is collapsed into Type B, it may not be necessary and this comment will be withdrawn.

Proposed Response: Response Status O
"using 64B/65B encoding" doesn't adequately describe the PCS. All the other multi-gigabit-T PHYs use 64B/65B... The other BASE-T PHYs are described either by the name of the encoding or the FEC used. I suggest spelling out Reed-Solomon so as not to confuse either with the optical RS-FEC or the Reconciliation Sublayer (also RS).

Suggested Remedy

Change "using 64B/65B encoding" to "using Reed-Solomon encoding" for both 2.5GBASE-T1 and 5GBASE-T1.

Proposed Response

Zimmerman, George
CME:ADI,Aquantia,AP

Comment Type T
Comment Status X

Table 125-2 is missing the entries in the RS and XGMII columns for clause 46 for both 2.5GBASE-T1 and 5GBASE-T1.

Suggested Remedy

Add "M" under RS for both PHYs and "O" under XGMII for both PHYs.

Proposed Response

Zimmerman, George
CME:ADI,Aquantia,AP

Comment Type E
Comment Status X

"as long as the normative requirements included in this clause are met." - you're referring here to what the conductors need to meet - to the requirements on the link segment - most of "this clause" defines the electrical parameters of the PHY. Better to reference just the link segment requirements.

Suggested Remedy

Change "this clause" to a cross reference to 149.7.

Proposed Response

Zimmerman, George
CME:ADI,Aquantia,AP

Comment Type E
Comment Status X

Spaces between numbers and units should be non-breaking.

Suggested Remedy

Make spaces between 5 Gb/s (and 2.5 Gb/s and 10Gb/s) non-breaking (CNTL-space). Editorial license to do similarly throughout the draft. (same thing with 15 m, and other number-unit combinations)

Proposed Response

Zimmerman, George
CME:ADI,Aquantia,AP

Comment Type E
Comment Status X

"are defined in terms of performance requirements between the attachment points [Medium Dependent Interface (MDI)].". The MDI is the reference plane at which the PHY attaches to the medium. It is there whether or not we define a specific connector. Therefore, the performance requirements for a link segment are defined MDI to MDI.

Suggested Remedy

Change "between the attachment points [Medium Dependent Interface (MDI)]," to "are defined in terms of performance requirements between the Medium Dependent Interfaces" (no comma after)

Proposed Response

Zimmerman, George
CME:ADI,Aquantia,AP

Comment Type E
Comment Status X

125.5.2 should be 125.2.2

Suggested Remedy

change "125.5.2" to "125.2.2"

Proposed Response

McClellan, Brett
Marvell

Comment Type E
Comment Status X

Spaces between numbers and units should be non-breaking.

Suggested Remedy

Make spaces between 5 Gb/s (and 2.5 Gb/s and 10Gb/s) non-breaking (CNTL-space). Editorial license to do similarly throughout the draft. (same thing with 15 m, and other number-unit combinations)

Proposed Response

Zimmerman, George
CME:ADI,Aquantia,AP

Comment Type E
Comment Status X
Comment Type: E  Comment Status: X
Space missing "equal to 10"

Suggested Remedy:
Change "equal to 10" to "equal to 10"

Proposed Response: Response Status: O

Comment Type: T  Comment Status: X
Interleaving may be needed to achieve target BER performance

Suggested Remedy:
from: "... each group of 50 64B/65B blocks. The PAM4 mapping, scrambler, RS-FEC, and PAM4 ..."
to: "...each group of 50 64B/65B blocks, plus optional interleaving. The PAM4 mapping, scrambler, RS-FEC, interleaver, and PAM4 ..."

Proposed Response: Response Status: O

Comment Type: E  Comment Status: X
If we name the PCS (say, e.g., "RS-FEC PCS") we can collapse all of the 3 stacks into 1 and make the figure much simpler, with a single stack showing the commonality of all 3 PHYs. If we choose to do this, I will put in a maintenance request to change the labeling in Figure 125-1 for 2.5GBASE-T and 5GBASE-T PCS's to "LDPC PCS" (as it is called elsewhere in Cl 125) and collapse them too, making Figure 125-1 back into 1 figure....

Suggested Remedy:
Change "2.5GBASE-T1 PCS" 5GBASE-T1 PCS" and "10GBASE-T1 PCS" to "RS-FEC PCS" and make the 3 stacks into 1 with the label "2.5GBASE-T1, 5GBASE-T1, or 10GBASE-T1" at the bottom.

Proposed Response: Response Status: O
Interleaving should be mentioned here as well.

Suggested Remedy

Change from: "Next, a 10-bit OAM field is appended and then 340 parity bits from an RS-FEC (360, 326, 2^10) are appended to create a 3600 bit block (duration 320ns at 10Gb/s)."

To: "Next, a 10-bit OAM field is appended to form a 3260 bit block. L of these 3260 bit blocks are formed into a RS-FEC input superframe, then encoded by the RS-FEC (360, 326, 2^10) and the round-robin interleaving as described in 149.3.2.17. The RS-FEC output superframe consists of L x 3600 bits (duration = L x 320ns at 10Gb/s)."

Proposed Response

Response Status O

The PMA Transmit function in the PHY then sends an alert message to the link partner. The Alert signal is a low frequency PAM2 signal. The Alert signal is then followed by a number of Wake frames. After this short recovery time the normal operational mode is resumed.

Suggested Remedy

Proposed Response

Response Status O

initiating a transition to the normal operation mode. The link partner then transmits wake frames which is used as a recovery period. Normal operation can then resume.

Suggested Remedy

Proposed Response

Response Status O
<table>
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<th>Page</th>
<th>Type</th>
<th>Comment</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>47</td>
<td>TR</td>
<td>Comment</td>
<td>X</td>
<td>There is no SEND_I (similar to Clause 55 and Clause 126).</td>
</tr>
<tr>
<td>50</td>
<td>ER</td>
<td>Comment</td>
<td>X</td>
<td>PAM4 symbols should have values of {-1, -1/3, 1/3, 1} per 149.3.2.2.20. Also, see Clause 97, tx_symb is PAM3 and it has values of {-1, 0, 1}.</td>
</tr>
<tr>
<td>55</td>
<td>TR</td>
<td>Comment</td>
<td>X</td>
<td>Supported interleaving depths depend on the PHY speed.</td>
</tr>
<tr>
<td>59</td>
<td>TR</td>
<td>Comment</td>
<td>X</td>
<td>Remove 8 from the list of possible interleave options</td>
</tr>
<tr>
<td>60</td>
<td>TR</td>
<td>Comment</td>
<td>X</td>
<td>Equation has rounding error.</td>
</tr>
</tbody>
</table>

**Comment Status:**
- **D/dispatched:** The comment has been dispatched but not yet reviewed by the appropriate party.
- **A/accepted:** The comment has been accepted by the appropriate party.
- **R/rejected:** The comment has been rejected by the appropriate party.
- **C/closed:** The comment has been closed, indicating that the issue has been addressed.
- **Z/withdrawn:** The comment has been withdrawn, meaning the submitter has chosen to remove it from consideration.

**Response Status:**
- **O/open:** The comment is open, indicating that the appropriate party has not yet responded.
- **W/written:** The comment has been written, indicating that the appropriate party has written a response.
- **R/received:** The comment has been received, indicating that the appropriate party has received the response.
- **C/closed:** The comment has been closed, indicating that the issue has been addressed.
- **Z/withdrawn:** The comment has been withdrawn, meaning the submitter has chosen to remove it from consideration.
Comment Type T  Comment Status X
Agreed the only interleavers to be used are 1, 2 and 4.

Suggested Remedy
Remove highlight and change text to "1, 2 and 4".

Proposed Response  Response Status O

Comment Type T  Comment Status X
Replace TBD in Figure 149-4
Also applies to Figure 149-5

Suggested Remedy
TBD's should be
Figure 149-6 and Table 149-1

Proposed Response  Response Status O

Comment Type T  Comment Status X
The description and Figure 149-7 is a bit ambiguous and subject to misinterpretation. Need a tighter definition if we are going to rely on diagrams instead of text.

Suggested Remedy
1) Page 84 line 54 change the text
Figure 149-7 to Figure 149-7 and Figure 149-10.
2) In Figure 149-7 modify the label scrn,0 to scrn,0 = scrn[0]
(Note the n,0 and n are subscript)

Proposed Response  Response Status O

The text is not correct.
The initial seed values for the MASTER and SLAVE are left to the implementer.
The value of the seed is already determined during training and is in fact continuously running.

Suggested Remedy
Delete:
The initial seed values for the MASTER and SLAVE are left to the implementer. The scrambler is run continuously on all frame bits.
Replace with:
The PMA training side-stream scrambler described in 149.3.4 is used as the PCS scrambler. This scrambler once started during PMA training shall continue to run uninterrupted during the transition from PAM2 to PAM4.

Proposed Response  Response Status O
Comment Type: T  Comment Status: X

does not actually show the scrambler implementation leaving it subject to interpretation. Further despite the title indicating 'PSC scramblers' the diagram shows functions outside of the scrambler including gray mapping, precoder, PAM2 mapping and PAM4 mapping. The mapping for PAM2 is incorrect, refer to 149.3.4 which is consistent with other BASE-T devices. An additional issue is that the text and equations of 149.3.2.2.14 duplicate existing text and equations in 149.3.4. Finally, the data scrambler description should appear after the RS-FEC section.

SuggestedRemedy

Delete figure 147-7. replace the text of 149.3.2.2.14 with the following:
"The payload of the PCS PHY frame tx_encoded<3599:0> is scrambled to tx_scrambled<3599:0> with an additive scrambler. Two scrambler bits per symbol are generated from the side-stream scrambler defined in 149.3.4. The first (LSB) bit is DS_n[0] equal to Scr_n[0] defined in 149.3.4. The second (MSB) bit is DS_n[0] equal to Scr_n[3] XOR Scr_n[8]. DS_n[0] and DS_n[1] are applied as additive scrambler sequences to incoming data bits D_n[0] (LSB) and DS_n[1] (MSB) to generate two scrambled data bits (A, B) as follows:
A = DS_n[0] XOR D_n[0]
B = DS_n[1] XOR D_n[1]
(_n denotes subscript)
Move 149.3.2.2.14 after 149.3.2.2.15.

Proposed Response: Response Status: O

Comment Type: TR  Comment Status: X

Wrong indices in Equation 149-4

SuggestedRemedy

Change from: "... + m1 x^36 + m0 x^35"
To "... + m1 x^35 + m0 x^34".

Proposed Response: Response Status: O

Comment Type: TR  Comment Status: X

I think the correct name is "tx_oam_field<9:0>"?

SuggestedRemedy

Change from "Link partner access field<9:0>" to "tx_oam_field<9:0>".

Proposed Response: Response Status: O

Comment Type: T  Comment Status: X

Incorrect index in Figure 149-8

SuggestedRemedy

g32 should be g33
g33 should be g34

Proposed Response: Response Status: O
In Figure 149-9, certain indices of the input and output sequences are incorrect.

**Suggested Remedy**

For "RS Encoder #L" input,

```
Change from: "m_{326xL}, m_{325xL}, …, m_L"
```

To:
```
"m_{325xL}, m_{324xL}, …, m_0",
```

For "RS Encoder #L" output,

```
Change from: "m_{326xL}, m_{325xL}, …, m_L, p_{L,33}, …, p_{L,0}"
```

To:
```
"m_{325xL}, m_{324xL}, …, m_0, p_{L,33}, …, p_{L,0}"
```

**Comment Status** X

**Response Status** O

---

Indexing incorrect in Figure 149-9 for Encoder #L

**Suggested Remedy**

Change m_{326xL}, m_{325xL}, ..., mL

(2 instances to the left and right of the encoder #L) to m_{325xL}, m_{325xL}, ..., m_0

**Comment Status** X

**Response Status** O

---

Use 97.3.2.3.1 as baseline text.

**Suggested Remedy**

Change to:
```
"When operating in the data mode, the receiving PCS shall form a PAM4 stream from the
PMA_UNITDATA.indication primitive by concatenating requests in order from rx_PAM4_0
to rx_PAM4_1799 (see Figure 149-5). It obtains block lock to the PHY frames during
the PAM2 training pattern using synchronization bits provided in the training sequence."
```

**Comment Status** X

**Response Status** O
The RS code changed to RS(360, 326) 2^10 the frame size is 1800 symbols, all the paragraph needs to be rewritten.

Suggested Remedy:
See the attached text and equation: During PMA training, the training pattern is embedded with indicators to establish alignment to the RS-FEC block and the 1015 partial PHY frames that comprise the block. The last partial PHY frame is embedded with an information field used to exchange messages between link partners. PMA training signal encoding is based on the generation, at time n, of the bit Sn. The first bit is inverted in the first 914 partial PHY frames of each RS-FEC block. The first 96 bits of the 105th partial PHY frame is XORed with the contents of the InfoField. Each partial PHY frame is 180 bits long, beginning at Sn where (n mod 180) = 0. See Equation (149–8).

\[ S_n = \begin{cases} 
(Scr)_n[0] \oplus \text{InfoField}_{((n \mod 180))} & \text{if } (n \mod 180) = 0 \\
(Scr)_n[0] & \text{otherwise}
\end{cases} \]

Comment Status: X
Response Status: O
Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
The RS-FEC block is 3600 bits, if there are 15 partial frames then each partial frame is 240 bits.

Suggested Remedy:
Change 180 to 240. Make the same change on page 94 lines 2 & 3. on page 94 line 2: change 2520 to 3360, 2615 to 3455, 2700 to 3600.

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
Sn to Tn mapping is not consistent with Figure 149-7.

Suggested Remedy:
changed to if Sn = 0 then Tn = -1, if Sn = 1, then Tn = +1.

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
Equation 149-8 is incorrect.

Suggested Remedy:
Adopt recommended changes as shown on page 4 of "tu_3ch_01_0119.pdf".

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X

Suggested Remedy:
Need advices from chair and editor:
Option #1: Change "if Sn = 0 then Tn = +1, if Sn = 1 then Tn = -1" to "if Sn = 0 then Tn = -1, if Sn = 1 then Tn = +1".

Option #2: Keep the current text as is, if the TF agree to define PAM2 mapping.

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
The RS code changed to RS(360, 326) 2^10 the frame size is 1800 symbols, all the paragraph needs to be rewritten.

Suggested Remedy:
See the attached text and equation: During PMA training, the training pattern is embedded with indicators to establish alignment to the RS-FEC block and the 1015 partial PHY frames that comprise the block. The last partial PHY frame is embedded with an information field used to exchange messages between link partners. PMA training signal encoding is based on the generation, at time n, of the bit Sn. The first bit is inverted in the first 914 partial PHY frames of each RS-FEC block. The first 96 bits of the 105th partial PHY frame is XORed with the contents of the InfoField. Each partial PHY frame is 180 bits long, beginning at Sn where (n mod 180) = 0. See Equation (149–8).

\[ S_n = \begin{cases} 
(Scr)_n[0] \oplus \text{InfoField}_{((n \mod 180))} & \text{if } (n \mod 180) = 0 \\
(Scr)_n[0] & \text{otherwise}
\end{cases} \]

Comment Status: X
Response Status: O
Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
The RS-FEC block is 3600 bits, if there are 15 partial frames then each partial frame is 240 bits.

Suggested Remedy:
Change 180 to 240. Make the same change on page 94 lines 2 & 3. on page 94 line 2: change 2520 to 3360, 2615 to 3455, 2700 to 3600.

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
Equation 149-8 is incorrect.

Suggested Remedy:
Adopt recommended changes as shown on page 4 of "tu_3ch_01_0119.pdf".

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X

Suggested Remedy:
Need advices from chair and editor:
Option #1: Change "if Sn = 0 then Tn = +1, if Sn = 1 then Tn = -1" to "if Sn = 0 then Tn = -1, if Sn = 1 then Tn = +1".

Option #2: Keep the current text as is, if the TF agree to define PAM2 mapping.

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
The RS-FEC block is 3600 bits, if there are 15 partial frames then each partial frame is 240 bits.

Suggested Remedy:
Change 180 to 240. Make the same change on page 94 lines 2 & 3. on page 94 line 2: change 2520 to 3360, 2615 to 3455, 2700 to 3600.

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X
Equation 149-8 is incorrect.

Suggested Remedy:
Adopt recommended changes as shown on page 4 of "tu_3ch_01_0119.pdf".

Proposed Response

Tu, Mike Broadcom

Comment Type: TR
Comment Status: X

Suggested Remedy:
Need advices from chair and editor:
Option #1: Change "if Sn = 0 then Tn = +1, if Sn = 1 then Tn = -1" to "if Sn = 0 then Tn = -1, if Sn = 1 then Tn = +1".

Option #2: Keep the current text as is, if the TF agree to define PAM2 mapping.

Proposed Response
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<th>SC</th>
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<td>X</td>
<td>Delete this line</td>
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<td>E</td>
<td>X</td>
<td>Delete section 149.3.4.4.</td>
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<td>This is in section 149.3.4.2.</td>
<td>E</td>
<td>X</td>
<td>Delete section 149.3.4.5.</td>
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<td>ER</td>
<td>X</td>
<td>Delete this line</td>
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**Comment Type:** TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general

**COMMENTS STATUS:** D/dispatched  A/accepted  R/rejected  RESPONSE STATUS: O/open  W/written  C/closed  Z/withdrawn

**SORT ORDER:** Clause, Subclause, page, line
Comment Type  TR  Comment Status  X
Subclause 149.3.6 has missing contents

Suggested Remedy
Copy from 126.3.6 as baseline, with the following modifications:
1. Replace all "LDPC" to "RS FEC"
2. Delete "tx_active_pair" and associated contents
3. Delete "ldpc_two_frame_done" and associated contents
4. Replace "tx_symb_vector" with "tx_symb"
5. Replace "tx_symb_vector" with "tx_symb"

 Proposed Response  Response Status  O

Comment Type  T  Comment Status  X
Update registers based on Clause 45!

Suggested Remedy
Registers were added in Clause 45, but these were not updated throughout the document.
See presentation with details for all changes.

 Proposed Response  Response Status  O

Comment Type  T  Comment Status  X
Page 99 lines 37 to page 100 line 17 including Figure 149-13 are not baselined.

Suggested Remedy
Accept the text as written in D1.0

 Proposed Response  Response Status  O

Comment Type  TR  Comment Status  X
Subclause 149.4.2.4, 149.2.4.1 to 149.4.2.4 have missing contents, or require revisions.

Suggested Remedy
Adopt pages 5 to 9 of "tu_3ch_01_0119.pdf" as baseline. Insert the figures and tables as indicated in that document.

 Proposed Response  Response Status  O
Comment Type ER  Comment Status X
1. Remove editorial highlights.
2. There is no need to exchange seed values anymore.
3. There is no user configurable register bits.

Suggested Remedy
Change this paragraph to:
"Upon entering the TRAINING state, the minwait_timer is started and the PHY Control assumes tx_mode = SEND_T sending PAM2 together with InfoFields. The PHY Control also sets PMA_state = 00 and sends the PHY capability bits."

Proposed Response   Response Status O

Comment Type TR  Comment Status X
1. Remove editorial highlight on line 42
2. Need to describe InterleaverDepth and PrecoderSel

Suggested Remedy
Change this paragraph and then add two more paragraphs.

"The optional EEE capability shall be enabled only if both PHYs set the capability bit EEEen = 1. The optional 1000BASE-T1 OAM capability shall be enabled only if both PHYs set the capability bit OAMen = 1.

InterleaverDepth indicates the requested data mode interleaving depth. The value Oct10<2:1> = 00 shall indicate interleaving depth L=1, or no interleaving. The values Oct10<2:1> = 01 and 10 shall indicate interleaving depth of 2 and 4, respectively. The only valid value for 2.5GBASE-T1 is 00. The valid values for 5GBASE-T1 are 00 and 01. The valid values for 10GBASE-T1 are 00, 01, and 10. The PHY transmitter shall be able to support the valid interleaving depth as requested by the link partner.

PrecoderSel indicates the requested data mode precoder. The value Oct10<4:3> = 00 shall indicate precoder bypass, or no precoder. The values Oct10<4:3> = 01, 10, and 11 shall indicate precoder choice of 1-D, 1+D, and 1-D^2, respectively, as indicated in 149.3.2.2.19. The PHY transmitter shall be able to support the selected precoder as indicated by the link partner."

Proposed Response   Response Status O

Comment Type TR  Comment Status X
1. Slave should be aligned to RS super-frame boundary. Remove editorial highlights.
2. As discussed in "tu_3ch_02_0119.pdf" page 4, the alignment should be relaxed for 10G and 5G.

Suggested Remedy
Change: "… its transmit TBD-RS frame to within +0/–1 …"
To: "… its transmit 65B-RS FEC super frame to within +0/–4*S …"
Also remove editorial highlights in this paragraph.

Proposed Response   Response Status O

Comment Type ER  Comment Status X
Remove editorial highlights for the first two paragraphes

Proposed Response   Response Status O
Data mode transmits PAM4, not PAM3.

Suggested Remedy
1. Remove editorial highlights
2. Change end of sentence: "... switches from PAM2 to PAM3." to "... switches from PAM2 to PAM4."

Proposed Response
Response Status: O

There is no SEND_IDLE1 state. There is also no SEND_I for tx_mode.

Suggested Remedy
Change this paragraph to:
"Upon reaching DataSwPFC2 partial PHY frame count PHY Control transitions to the
TX_SWITCH state and forces transmission into the data mode by asserting tx_mode
=SEND_N."

Proposed Response
Response Status: O

"PAM3" should be "PAM4". Also the state name should be PCS_TEST.

Suggested Remedy
Change this paragraph to:
"Once the link partner has transitioned from PAM2 to PAM4, PHY Control transitions to the
PCS_TEST state and starts the minwait_timer."

Proposed Response
Response Status: O
The value of the variable force_phy_type is not used except for != 2.5G-T1, which causes a fatal problem for 5GBASE-T1 and 10GBASE-T1 PHYs. Additionally, it has defined values out of scope for this state diagram (1000-T1 and 100-T1). The variable isn't used anywhere else in the clause, so it is unclear what is meant by the variable. If this variable is meant to be used in another state diagram which is speed-dependent, it needs to be added to that diagram.

SuggestedRemedy

Delete values of 1000-T1, 100-T1, and None, and their descriptions. Add "Other values are implementation-dependent and beyond the scope of this clause," alternatively, consider replacing force_phy_type with a boolean variable force_mg_phy_type which is either TRUE (2.5G/5G/10G) or FALSE (anything else), as the speed doesn't seem to matter in 149.4.2.6.4.

Proposed Response

Change entry to SYNC_DISABLE from "...(force_phy_type != 2.5G-T1)" to "...(force_phy_type != 2.5G-T1 * force_phy_type != 5G-T1 * force_phy_type != 10G-T1)" alternatively, consider replacing force_phy_type with a boolean (TRUE/FALSE) variable force_mg_phy_type.

Proposed Response

Remove Editor's note as it no longer applies.

SuggestedRemedy

Remove box around note and all contents.

Proposed Response

Add a connection from PCS DATA to INIT_MAXWAIT_TIMER state with minwait_timer_done * loc_rcvr_status = NOT_OK describing the arc.

SuggestedRemedy

Change "These test modes shall be enabled by setting a control register..." to "If MDIO is implemented these test modes shall be enabled by setting a control register...". Add new 2nd sentence to 2nd paragraph in 149.5.1, "If MDIO is not implemented then equivalent functionality shall be provided."

Proposed Response

Delete editor's note on lines 21-24, change "This TBD MHz test clock is TBD frequency divided version of TX_TCLK that times the transmitted symbols." to "TX_TCLK_DIV is a one-eighth frequency divided version of TX_TCLK that times the transmitted symbols."

SuggestedRemedy

Need to define TX_TXCLK_DIV. Suggest divide by 8.

Proposed Response

Delete editor's note on lines 21-24, change "This TBD MHz test clock is TBD frequency divided version of TX_TCLK that times the transmitted symbols." to "TX_TCLK_DIV is a one-eighth frequency divided version of TX_TCLK that times the transmitted symbols."
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<td>132</td>
<td>32</td>
<td>158</td>
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<td>Zimmerman, George</td>
<td>CME:ADI,Aquantia,AP</td>
<td>Define test mode 2 to have the same divide by 8 proposed for test mode 1.</td>
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<tr>
<td>SuggestedRemedy</td>
<td>Change &quot;three [+] symbols...&quot; &quot;three [-] symbols&quot; to &quot;four [+] symbols...&quot; &quot;four [-] symbols&quot;</td>
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<td>(0,3) symbols - PCS does the mapping from (0,3) to {-1, +1} so this is incorrect</td>
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<td>Change (0,3) to {-1, +1}</td>
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</table>
| SuggestedRemedy | Delete "the sequence of symbols..." through equation 149-15. add "Editor's note (to be removed prior to draft 2.0): Transmitter linearity test specification and framework contributions needed."
| Proposed Response | Response Status | O |

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</table>
| SuggestedRemedy | Delete yellow text on lines 1 through 4 and insert "Instead of encoding received data from MAC, continuous zero data pattern is encoded. In the receive side, after PCS FEC decoding processing, a zero data sequence is expected with no errors. Any non-zero data bit received is counted as error and calculated in BER."
| Proposed Response | Response Status | O |

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</table>
Comment Type: E  Comment Status: X
Remove Editor's note as it no longer applies.

Suggested Remedy
Remove box around note and all contents.

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
IEC 60950-1 is replaced by IEC 62368-1

Suggested Remedy
Change "IEC 60950-1" to "IEC 62368-1 (former IEC 60950-1)"

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
List complete Standards reference (note: these Standards were added to the main document bibliography by Maintenance Request 1315)

Suggested Remedy

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
List complete Standards reference (note: these Standards were added to the main document bibliography by Maintenance Request 1315)

Suggested Remedy
Replace, "ISO 10605 and IEC 61000-4-2/3" with "ISO 10605, IEC 61000-4-2, and IEC 61000-4-3"

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X
List complete Standards reference (note: these Standards were added to the main document bibliography by Maintenance Request 1315)

Suggested Remedy
Replace, "IEC 62215-3 and ISO 7637-2/3" with "IEC 62215-3, ISO 7637-2, and ISO 7637-3"

Proposed Response  Response Status: O
Maguire, Valerie  
The Siemon Company

Comment Type  E  Comment Status  X
Incorrect formatting for table contents

SuggestedRemedy
Format the contents of Table 149-10 as Times New Roman 9.0pt (I think this can be accomplished by applying Paragraph Tag: Body)

Proposed Response  Response Status  O

Wienckowski, Natalie  
General Motors

Comment Type  E  Comment Status  X
Typo

SuggestedRemedy
Change "2018comprehnsive" to "comprehensive" to match template.

Proposed Response  Response Status  O