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| $C I$ FM SC FM | P 1 | $L \mathbf{1 0}$ | \# l-157 |
| :--- | :---: | :---: | :--- |
| Dawe, Piers J G | NVIDIA |  |  |
| Comment Type E | Comment Status D |  | (bucket2) |

Missing amendment number
SuggestedRemedy
Insert amendment number or a placeholder if the number is not known yet. Also on page 30 line 3. It would help if the placeholders were in the template.
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment \#83.

| CI FM SC FM | P 1 | $L \mathbf{3 4}$ |
| :--- | :---: | :---: |
| Grow, Robert | RMG Consulting | \# 1-82 |

Comment Type E Comment Status D
(bucket2)
Don't forget to update copyright year here, next page, and in the footer when producing the next draft

SuggestedRemedy
Update framemaker variable and inspect front pages and footer to to assure all use the vairable and if not, update.
Proposed Response Response Status w
PROPOSED ACCEPT.

| Cl FM SC FM | P 4 | L 32 |
| :--- | :---: | :---: |
| Healey, Adam | Broadcom Inc. | \# I-123 |
| Comment Type E | Comment Status D |  |
| (bucket2) |  |  |

The "Important Notices and Disclaimers Concerning IEEE Standards Documents" does not align with the latest template.

## SuggestedRemedy

Update the frontmatter to be consistent with the latest template. Note changes to the second paragraph of "Notice and Disclaimer of Liability Concerning the Use of IEEE Standards Documents", two additional paragraphs under "Patents", and other minor changes.
Proposed Response
Response Status W
PROPOSED ACCEPT. SORT ORDER: Clause, Subclause, page, line


No amendment numbers on descriptions of amendments 3 through 5
SuggestedRemedy
Add Amendment number as on Amendment 1 through Amendment 2.
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.
(bucket2)

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| CI FM SC FM | $P 13$ | $L 9$ |
| :--- | :---: | :---: |
| Grow, Robert | RMG Consulting | \# I-86 |

Comment Type
Comment Status D
(bucket2)
PHY is the acronym for Physical Layer Device, not Physical Layer. The self description in P802.3db/D2.1 deletes "(PHY)".

## SuggestedRemedy

Delete "(PHY)"
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
The description in 802.3db D2.1 appears to have fixed this error.
Update the decription to match the description in 802.3db.

| $C l$ FM SC FM | P 13 | $L \mathbf{2 0}$ |
| :--- | :---: | :---: |
| Grow, Robert | RMG Consulting |  |

Comment Type E Comment Status D
While the integrety of copying self descriptions exactly is to be commended, perhaps changing 2018 to 202x on Amendment 2 could be done. Multiple comments were submitted on P802.3de/D2.1 about the 2018 date of the base standard in the self description (proposed accept). P802.3cs/D3.0 has a significantly different self description.

## SuggestedRemedy

When producing the latest draft, check for updates to the self descriptions of Amendments 2 and 3. Update the P802.3de reference to 2018 in any case. Delete the note.
Proposed Response
Response Status W

## PROPOSED ACCEPT IN PRINCIPLE

The decriptions and amendment numbers should be updated to match the amendments. However, errors in these decriptions should be addressed by comments against each amendment.
Update the amendment descriptions to match the desciption in the latest draft for each amendment.
$C I$ FM SC FM $\quad P 30 \quad L 47$

Dawe, Piers J G
NVIDIA
Comment Type E
Comment Status D
(bucket2)
As this is an amendment to $802.3 \mathrm{dc}, \mathrm{P} 802.3 \mathrm{cn}$ and P 802.3 cu have gone, and new readers need not know of them. Further, the editor's note would be more use to reviewers and editor if it listed the actual amendments that the editor has noted as running in parallel and affecting this draft, not just the concept. Also, it helps to state which amendments running in parallel are believed not to affect the draft, so the reviewer knows they have been considered. Apparently, only P802.3db affects this draft, but others might.
SuggestedRemedy
Change "(e.g., IEEE P802.3cn and IEEE P802.3cu)" to "(IEEE P802.3db; no impact is noted from IEEE P802.3dd, P802.3de, or IEEE P802.3cs)"
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
The list of prior amendments should be updated to list only relevant ones. However, the list of prior amendments is for example only and is not meant to be exhaustive.
Change "(e.g., IEEE P802.3cn and IEEE P802.3cu)" to "(e.g., IEEE P802.3db)"

| $C$ FM SC FM | P 30 | L 48 | \# I-159 |
| :--- | :---: | :---: | :---: |
| Dawe, Piers J G | NVIDIA |  |  |
| Comment Type E | Comment Status D |  |  |
| (bucket2) |  |  |  |

"the same text and tables" so clashing edits to figures are OK?
SuggestedRemedy
Change to "the same portions of the draft standard".
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
The text in this editor's note is consistent with the amendment template. However, it would be good to correct this statement
With editorial license, update the text based on the suggested remedy and guidance from the template author with editorial license

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| CI O SC O | P O | L O |
| :--- | :---: | :---: |
| Brown, Matthew | Huawei Technologies Canada | \# I-18 |
| Comment Type | E | Comment Status D |

Keep this draft in line with the new revision (802.3dc) and any amendments that precede 802.3ck.

SuggestedRemedy
Align the next draft with the latest versions of the new revision (802.3df) and any preceding amendments.
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Implement with editorial license.


The references for QSFP-DD and for SFP-DD don't have periods at the end, unlike other references.
SuggestedRemedy
Add final periods for these two references.
Proposed Response Response Status
PROPOSED ACCEPT.

| Cl 1 | SC 1.4 | P 32 | L 51 | \# 1-38 |
| :---: | :---: | :---: | :---: | :---: |
| Ran, | Cisco Systems, Inc. |  |  |  |
| Com | pe E | Comment Status D |  | (bucket2) |

For consistency, URLs should be formatted in blue and underlined.
SuggestedRemedy
Apply URL format in four URL instances on this page.
Proposed Response
Response Status W
PROPOSED ACCEPT.


SuggestedRemedy
Please remvoe SFP-DD
Proposed Response Response Status W
PROPOSED ACCEPT.

| Cl 30 | SC 30.5.1.1.16 | P 36 | L 39 |
| :--- | :---: | :---: | :---: |
| Ran, Adee |  | Cisco Systems, Inc. | I-39 |

Comment Type E Comment Status D (bucket2) The fourth paragraph of $30 \cdot 5 \cdot 1.1$. 16 has been changed by 802.3 dc to the following text:

If a Clause 45 MDIO Interface is present, then this attribute maps to the FEC enable bit or to the RS-FEC enable bit in the appropriate FEC control register based upon the PHY type and the FEC operating mode (see 45.2.10.3, 45.2.1.108, and 45.2.1.116).;

This removes the need for the changes in this paragraph in the 802.3ck draft
SuggestedRemedy
Remove the fourth paragraph of 30.5.1.1.16
Change the editorial instruction from "Change remainder of 30.5.1.1.16 as follows" to "change the three subsequent paragraphs as follows".
Proposed Response Response Status W
PROPOSED ACCEPT.


IEEE P802.3ck will be an amendment to the next revision of IEEE Std 802.3. The changes shown in the last paragraph of the "BEHAVIOR DEFINED AS:" section do not correspond
to the text in the latest revision draft (D3.0).
SuggestedRemedy
Specify the changes relative to the text in IEEE P802.3 (IEEE 802.3dc) D3.0.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment \#39

IEEE P802.3ck D3.0 100/200/400 Gb/s Electrical Interfaces Task Force Initial Sponsor ballot comments

| Cl 30 | SC | 30.5.1.1.16 | P 36 | L 39 | \# I-5 |
| :--- | :---: | :---: | :---: | :---: | :--- |
| Marris, Arthur |  | Cadence Design Systems, Inc. |  |  |  |
| Comment Type | E | Comment Status | D |  | (bucket2) |

Reconcile the last paragraph of 30.5.1.1.16 with the text in the revision standard.
SuggestedRemedy
Make it so the last paragraph of 30.5.1.1.16 is identical to the revision standard so it reads:
"If a Clause 45 MDIO Interface is present, then this attribute maps to the FEC enable bit or to the
RS-FEC enable bit in the appropriate FEC control register based upon the PHY type and the FEC
operating mode (see 45.2.10.3, 45.2.1.108, and 45.2.1.116).;"
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment \#39

| $C l$ | 30 | $S C$ | 30.5.1.1.17 | P 37 |
| :--- | :---: | :---: | :---: | :---: |

Ben-Artsi, Liav Marvell Semiconductor, Inc.
Comment Type E Comment Status D
Historically speeds were stated lowest first, this 10/1Gboa-PRX should be changed to 1/10Gbase-PRX
SuggestedRemedy
change to $1 / 10$ Gbase-PRX
Proposed Response
Response Status
PROPOSED REJECT.
This comment refers to text in the base standard that is not relevant to the P802.3ck project and so is out of scope for comment. Also making this change might have side effects by requiring a similar change in 45.2.3.43.


Historically speeds were stated lowest first, this 10/1Gboa-PRX should be changed to 1/10Gbase-PRX

SuggestedRemedy Change to $1 / 10$ Gbase-PRX
Proposed Response Response Status W PROPOSED REJECT.
This comment refers to text in the base standard that is not relevant to the P802.3ck project and so is out of scope for comment. Also making this change might have side effects by requiring a similar change in 45.2.3.43.

| Cl 45 | SC 45.2.1.6 | P 40 | $L 12$ |
| :--- | :---: | :---: | :---: |
| Ben-Artsi, Liav | Marvell Semiconductor, Inc. |  | I-228 |

Comment Type TR Comment Status D (bucket2) How 1011111 is defined? Should be reserved.
SuggestedRemedy
Add 1011111 as reserved
Proposed Response Response Status W PROPOSED REJECT.
1011111 is not reserved but defined to be "400GBASE-SR8 PMA/PMD" in the base standard. As the row is unchanged there is no need to include it in the 802.3ck standard.

IEEE P802.3ck D3.0 100/200/400 Gb/s Electrical Interfaces Task Force Initial Sponsor ballot comments

| Cl 45 | SC 45.2.1.21 | P 42 | L 3 | \# I-7 |
| :--- | :---: | :---: | :---: | :--- |
| Marris, Arthur |  | Cadence Design Systems, Inc. |  |  |
| Comment Type | E | Comment Status D |  | (bucket2) |

Align 45.2.1.21 with 802.3 db draft 2.1 and also 45.2.1.24 and any other subclauses as appropriate
SuggestedRemedy
Change editing instruction from:
"Change Table 45-23 as follows (some unchanged rows not shown):"
To:
"Change Table 45-24 (as modified by IEEE 802.3db-202x) as follows (some unchanged rows not shown):"

In Table 45-24 show reserved row as crossed out and change bits to "1.23:8:7" to match 802.3db

Change "Insert 45.2.1.21.1a and 45.2.1.21.1b after 45.2.1.21.1 as follows:"
to:
"Insert 45.2.1.21.1c and 45.2.1.21.1d after 45.2.1.21.1b (as inserted by IEEE 802.3db202x) as follows:"

Renumber 45.2.1.21.1a and 45.2.1.21.1b to 45.2.1.21.1c and 45.2.1.21.1d
In Table 45-27 show reserved row as crossed out and change bits to "1.26:1:0" to match 802.3db

Proposed Response Response Status w
PROPOSED ACCEPT.

| Cl 45 | SC 45.2.1.21 | P 42 | L11 | \# l-160 |
| :--- | ---: | ---: | ---: | ---: |
| Dawe, Piers J G | NVIDIA |  |  |  |
| Comment Type E | Comment Status D |  | (bucket2) |  |

P802.3db has changed this table, so the next row above is 200GBASE-VR2 ability not "Reserved".

SuggestedRemedy
Show the row above and below the rows this project adds so the context can be reviewed and some clashes spotted easily.
Change
1.23.14:9x7/x Reserved Value always $0 \quad R$
to
1.23.9 200GBASE-VR2 ability $1=P M A / P M D$ is able to perform 200GBASE-VR2 $0=$ PMA/PMD is not able to perform 200GBASE-VR2 RO
Adjust the instructions at line 3 to mention the preceding amendment(s) that affect this table (P802.3db).
Similarly for Table 45-27
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE
Resolve using the response to comment \#7

| Cl 45 SC 45.2.1.21 | P 42 | L 18 | \# 1-229 |
| :---: | :---: | :---: | :---: |
| Ben-Artsi, Liav | Marvell Semiconductor, Inc. |  |  |
| Comment Type ER "ability 1 " is " 1 " a typo? | Comment Status D |  | (bucket2) |
| SuggestedRemedy If a typo, erase |  |  |  |
| Proposed Response | Response Status W |  |  |
| PROPOSED ACCEPT "1" is a typo so erase it | N PRINCIPLE. |  |  |

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Bit 7.49.6 needs its own subclause
SuggestedRemedy
Insert new subclause "45.2.7.13.A RS-FEC-Int negotiated (7.49.6)" and make it contain the this text currently in 45.2.7.13.1:

When the Auto-Negotiation process has completed as indicated by the AN complete bit (7.1.5), bit 7.49.6
indicates that Forward Error Correction codeword-interleaved (RS-FEC-Int) operation as defined in
Clause 161 has been negotiated. This bit is set only if RS-FEC-Int operation has been negotiated for a
100GBASE-P PHY supporting negotiation of RS-FEC-Int operation."
Proposed Response Response Status w PROPOSED ACCEPT.

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Comment Type TR Comment Status D (bucket2)
The text describing the use of bit F4 in 73.6.5 differs enough from CI 73.6.5.a to imply that many 100G PHYs have the RS-FEC-Int capability. At this time, there are only two: 100GBASE-CR1 and 100GBASE-KR1. With the exception of 100GBASE-KP4, these are all 100GBASE-P PHY types and improved wording would make it more clear and align it with the title of 73.6.5.a.
SuggestedRemedy
Change the last sentence of the last paragraph to "F4 is used by 100GBASE-P PHYs where RS-FEC-Int (see Clause161) is an alternative to the default RS-FEC (see Clause91)."

Additionally, change item (e) in the list of Cl 73.6 .5 to be "F4 is 100GBASE-P RS-FEC-Int requested"
Proposed Response
Response Status
PROPOSED ACCEPT
Cl $80 \quad S C$ 80.1.3 $\quad$ P $76 \quad$ L $41 \quad$ \#

Marris, Arthur Cadence Design Systems, Inc.
Comment Type E Comment Status D
(bucket2)
Add
"Clause 167 for 100GBASE-VR1 and 100GBASE-SR1"
on line 42 for the case of single lane datapath as added by 802.3 db
SuggestedRemedy
Add: "Clause 167 for 100GBASE-VR1 and 100GBASE-SR1" on line 42 showing
appropriate changes from the text in 802.3 db
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE
Add: "-- Clause 167 for 100GBASE-VR1 and 100GBASE-SR1" after "-- in Clause163 for 100GBASE-KR1"


Include 100GBASE-SR1 and 100GBASE-VR1 from 802.3db.
SuggestedRemedy
Insert a line below the Clause 140 line in item i)
"-- Clause 167 for 100GBASE-VR1 and 100GBASE-SR1"
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment \#2.

| Cl 80 | SC 80.1.3 | P 76 | L 42 | \# I-81 |
| :--- | :---: | :---: | :---: | :---: |
| Lusted, Kent |  | Intel Corporation |  |  |
| Comment Type | E | Comment Status D | (bucket2) |  |

there is an extra "in" at the start of the bullets for Clause 162 and Clause 163 list items
SuggestedRemedy
in 80.1.3, list item i) change:
"in Clause 162 for 100GBASE-CR1" to " Clause 162 for 100GBASE-CR1" and "in Clause163 for 100GBASE-KR1" to "Clause163 for 100GBASE-KR1"
Proposed Response Response Status W
PROPOSED ACCEPT.

| Cl 80 | SC 80.1.5 | P 80 | L 14 |
| :--- | :---: | :---: | :---: |
| Brown, Matthew |  | Huawei Technologies Canada | \#-19 |
| Comment Type T | Comment Status D |  |  |
| (bucket2) |  |  |  |

100GAUI-1 C2C and C2M are listed in Table 80-5 as optional for 100GBASE-VR1 and 100GBASE-SR1, but the sublayer table in Clause 167 does not list these.
SuggestedRemedy
Import Clause 167 and Table 167-1, adding 100GBASE-1 C2C and C2M
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE
Resolve using the response to comment \#36.

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Capitalization of "forward error correction" has been made consistent in P802.3/D3.0.
SuggestedRemedy
A search and replace will find 8 places where capitalization needs to be corrected to lower case in subclause headings and text.
Proposed Response Response Status w
PROPOSED ACCEPT.


Comment Type E Comment Status D (bucket2)
400GBASE-SR4.2 seems to have a nomanclature very different than all others - find one which is more aligned with all others
SuggestedRemedy

Proposed Response Response Status w

## PROPOSED REJECT.

This nomenclature reflects the nomenclature in the base standard. Changes to this tex are out of scope for 802.3ck

| Cl $116 \quad$ SC 116.1.3 | P 96 | L 34 |
| :--- | :---: | :---: |
| Parsons, Earl | CommScope, Inc. | \# l-94 |
| Comment |  |  | 802.3db modifies Table 116-2. 400GBASE-VR4 now comes before 400GBASE-SR16.

## SuggestedRemedy

Replace the 400GBASE-SR16 row with 400GBASE-VR4.
Proposed Response Response Status W
PROPOSED ACCEPT.


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802.3db added 400GBASE-VR4 to Table 116-7 above 400GBASE-SR16

SuggestedRemedy
Replace the 400GBASE-SR16 row with 400GBASE-VR4.
Proposed Response Response Status W
PROPOSED ACCEPT.

| Cl $116 \quad S C$ | 116.5 | $P 102$ |
| :--- | :---: | ---: |
| Parsons, Earl | CommScope, Inc. | \# 13 |
| Comment Type T | Comment Status D |  |
| (bucket2) |  |  |

Add references to Clause 167.3.2 to Table 116-8 and Table 116-9 as in D2.1 of 802.3db
SuggestedRemedy
Per comment
Proposed Response Response Status w
PROPOSED ACCEPT.

| $C l 120$ | $S C$ 120.5.11.2.a | $P 110$ | $L 46$ |
| :--- | :--- | :---: | :---: |
| Ran, Adee | Cisco Systems, Inc. | \#-42 |  |

Comment Type E Comment Status D
(bucket2)
Equation (120-1) and Figure 120-6a are placed after a large block of text and a full
pattern, and seem to be out of context. The block could be broken to two paragraph so the equation and figure are placed after their reference, and are in the right context.
SuggestedRemedy
Break the paragraph into two after "Equation(120-1)", and have the equation, note, and figure follow the first paragraph
Proposed Response
Response Status w
PROPOSED REJECT.
The proposed changes to not improve the accuracy and do not improve the clarity of the text.

| Cl 120F SC 120F. 1 | P 237 | L 43 |
| :--- | :---: | :---: |
| Grow, Robert | RMG Consulting | \# l-91 |
| Comment Type E | Comment Status D |  |
| (bucket2) |  |  |

Similar misuses of "comprise" have been rewritten using "compose" in P802.3/D3.0.
SuggestedRemedy
The C2M interface is composed of independent transmit and receive data paths.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Change: "The C2C interface comprises independent data paths in each direction." To: "The C2M interface is composed of independent transmit and receive data paths."

| $C l$ 120F SC 120F.4.2 | P 248 | L 20 |
| :--- | :---: | :---: |
| Brown, Matthew | Huawei Technologies Canada |  |

Comment Type T Comment Status D Channel ILdd (bucket2)

The sentence specifying insertion loss refers to a maximum value, but the equation is an inequality. Reword the specify to be of the for used in 120G.4.1.

## SuggestedRemedy

Change: "The channel differential-mode to differential-mode insertion loss should be equal to or less than Equation (120F-2)."
To: "The channel differential-mode to differential-mode insertion loss should meet Equation (120F-2)."
Proposed Response Response Status W PROPOSED ACCEPT.

| Cl 120F SC 120F.4.2 | P 248 | L 26 |
| :--- | :---: | :---: |
| Brown, Matthew | Huawei Technologies Canada |  |

Comment Type E Comment Status D (bucket2)
To be consistent with other similar specifications in this draft the units should be in the variable definition not the equation.

SuggestedRemedy
In Equation 120F-2, delete "(dB)"
Change the definition of ILdd to "is the channel differential-mode to differential-mode insertion loss in dB
Proposed Response Response Status
PROPOSED ACCEPT.

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| Cl 120G SC 120G.1 | P 256 | $L \mathbf{1 1}$ |
| :--- | :---: | :---: |
| Grow, Robert | RMG Consulting | \# l-92 |
| Comment Type |  |  |

Similar misuses of "comprise" have been rewritten using "compose" in P802.3/D3.0.

## SuggestedRemedy

The C2M interface is composed of independent transmit and receive data paths
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Change: "The C2M interface comprises independent data paths in each direction."
To: "The C2M interface is composed of independent transmit and receive data paths."

| Cl 120G SC 120G.3.1 | P 258 | L 17 | \# l-155 |
| :--- | :---: | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor |  |  |
| Comment Type E | Comment Status D | PICS (bucket2) |  |

PICS entry seems missing for "Steady-state voltage, v_f(max)" in Table 120G-1.
SuggestedRemedy
Add a PICS entry for "Steady-state voltage" per Table 120G-1 with a reference to
Proposed Response Response Status W PROPOSED ACCEPT.
Add new PICS item with editorial license.

| $C l$ 120G $\quad S C$ 120G.3.1.5 | $P 260$ | $L 19$ |
| :--- | :---: | :---: |
| Brown, Matthew | Huawei Technologies Canada | \# I-26 |

Comment Type T Comment Status D configuration VNA (bucket2) Figure 120G-6 includes a VNA at the input to the measurement receiver, yet there are nor measurements defined that require a VNA

## SuggestedRemedy

Change "VNA or scope" to "Scope"
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE
Note also that the acronym VNA (presumably Vector Network Analyzer) is never defined (except remotely in Annex 149A).
mplement the suggested remedy
Also, in Figure 120G-7 change "VNA or scope" to "Scope"
Resolve comment \#26, 28, and 30 together.


Not sure why you are referencing Table 120F-3, maybe the intention was Figure 120F-3!
SuggestedRemedy
Please change to Figure 120F-3
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
The cross reference should be be pointing to Figure 120F-3 not Table 120F-3.
Implement the suggested remedy.

| Cl 120G | SC 120G.3.3.5.1 | P 265 | $L \mathbf{5 2}$ |
| :--- | :---: | :---: | :---: |
| Ghiasi, Ali |  | Ghiasi Quantum LLC,Marvell Semiconductor, Inc. |  |

Comment Type TR Comment Status D HI SIT PG (bucket2)

What is the intention of defining no equalization state, I don't see it being used!
SuggestedRemedy
This sentence is either incomplete or should be remvoed.
Proposed Response Response Status w PROPOSED REJECT.
The "no equalization" state is requested in 120G.3.3.5.2 step a).

| CI 120G SC 120G.3.3.5.1 | P 266 | $L 40$ |
| :--- | :---: | :---: |
| Brown, Matthew | Huawei Technologies Canada | \# I-28 |

Comment Type T Comment Status D 'configuration VNA (bucket2) Figure 120G-9 includes a VNA (vector network analyzer) at the output of the pattern generator, yet there are measurements defined that require a VNA.
SuggestedRemedy
Delete the VNA box and the switch that connects to it.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Note also that the acronym VNA (presumably Vector Network Analyzer) is never defined (except remotely in Annex 149A).

SC 120G.3.3.5.1

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| Cl 120G SC 120G.3.4 | P 269 | L 12 |
| :--- | :---: | :---: |
| Brown, Matthew | Huawei Technologies Canada | \# l-29 |

Comment Type
Comment Status D
(bucket2)
Table 120G-9 is titled "Module input characteristics" thus it is obvious that all specifications in this table relate to the module input. To match the other specifications in this table the word "input" should be removed from the parameter "Differential pk-pk input voltage tolerance (min)"

## SuggestedRemedy

Change " "Differential pk-pk voltage tolerance (min)"
To "Differential pk-pk voltage tolerance (min)"
Proposed Response
Response Status W
PROPOSED ACCEPT IN PRINCIPLE
Change "Differential pk-pk input voltage tolerance (min)"
To "Differential pk-pk voltage tolerance (min)"
Cl 120G SC 120G.3.4.3.1 P $270 \quad$ L 44

Brown, Matthew Huawei Technologies Canada
Comment Type T Comment Status D configuration VNA (bucket2)
Figure 120G-10 includes a VNA at the output of the frequency-dependent attenuator, but there are no measurements defined that require the use of a VNA.

## SuggestedRemedy

Delete the VNA box and the associated switch.
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE
Note also that the acronym VNA (presumably Vector Network Analyzer) is never defined (except remotely in Annex 149A).
Implement the suggested remedy.


In module stressed input calibration, the transition time should be defined with no Tx
equalization in the pattern generator, as in the host stressed input calibration, 120G.3.3.5.2.
SuggestedRemedy
Change from
"The pattern generator is set to generate a PRBS13Q pattern (see 120.5.11.2.1) with transition time (see 120G.3.1.4) at the output of the pattern generator as specified in Table 120G-10"
To
"The pattern generator is set to generate a PRBS13Q pattern (see 120.5.11.2.1). The transition time (see 120G.3.1.4) measured at the output of the pattern generator when configured to "no equalization" is as specified in Table 120G-10"
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE
Resolve using the reponse to comment \#200.

| Cl 120G SC 120G.3.4.3.2 | P 271 | L4 | \# I-200 |
| :--- | ---: | ---: | ---: | ---: |
| Dawe, Piers J G | NVIDIA |  |  |
| Comment Type T | Comment Status D |  | ' SIT transition time (bucket2) |

120G.3.3.5.2 says that "The pattern generator is set to generate a PRBS13Q pattern (see 120.5.11.2.1). The transition time (see 120G.3.1.4) measured at TP4a with the pattern generator output equalization configured for "no equalization" is as specified in Table 120G-
8." This says "The pattern generator is set to generate a PRBS13Q pattern (see
120.5.11.2.1) with transition time (see 120G.3.1.4) at the output of the pattern generator as specified in Table 120G-10."
The point about neutral emphasis (so it's really rise time not transition time) applies to
both. D2.2 comment 133. (The terminology problem is in the base document: generally, the parameter Tr is not a "transition time" as defined, but can be called a rise time.)

## SuggestedRemedy

Change
"(see 120.5.11.2.1) with transition time (see 120G.3.1.4) at the output of the pattern generator as specified in Table 120G-10." to
"(see 120.5.11.2.1). The transition time (see 120G.3.1.4) measured at the output of the
pattern generator, with the pattern generator output equalization configured for "no equalization", is as specified in Table 120G-10."
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE
implement the suggested remedy with editorial license.
Also, align the punctuation (commas) on page 267 line 2.

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| Cl 121 | SC 121.1 | P 115 | $L 19$ |
| :--- | :---: | :---: | :--- |
| Ben-Artsi, Liav | Marvell Semiconductor, Inc. |  | I-233 |

Comment Type E
Comment Status D
(bucket2)

120-F and 120G have a different format than the line above - Same applies for table 122-1 on page 116
SuggestedRemedy
aline formats between the three and write: 120F-Chp-to-chip 200GAUI-2 and 120G-Chip-tomodule 200GAUI-2. Fix also table 122-1
Proposed Response Response Status w
PROPOSED REJECT.
The newly inserted 200GAUI-2 C2C and C2M are consistent with the nomenclature in the corresponding Annexes and other PMD clauses. The description used for the other AUIs as written in the base standard; addressing these is outside the scope of 802.3ck.

| CI 124 | SC 124.1 | P 118 | $L 19$ | \# l-234 |
| :--- | :---: | :---: | :---: | :---: |

Ben-Artsi, Liav Marvell Semiconductor, Inc.
Comment Type E Comment Status D (bucket2)
120-F and 120G have a different format than the line above

## SuggestedRemedy

aline formats between the three and write: 120F-Chp-to-chip 200GAUI-2 and 120G-Chip-tomodule 200GAUI-2.
Proposed Response Response Status W PROPOSED REJECT.
The newly inserted 200GAUI-2 C2C and C2M are consistent with the nomenclature in the corresponding Annexes and other PMD clauses. The description used for the other AUIs as written in the base standard; addressing these is outside the scope of 802.3ck.

| Cl 135 | SC 135.5.7.2 | P 123 |
| :--- | :---: | :---: |


| CI 154 | SC 154.1 | P 133 | L 0 | I-35 |
| :--- | :---: | :---: | :---: | :--- |
| Ran, Adee |  | Cisco Systems, Inc. |  |  |
| Comment Type T | Comment Status D | (bucket2) |  |  |

Clause 154 (recently added to 802.3 dc ) defines the 100GBASE-ZR PHY, which may use
Clause 154 (recently added to 802.3dc) defines the 100GBASE-ZR PHY, which may use
the 100GAUl-1 C2C/C2M interfaces, in addition to the 100GAUI-2 and other interfaces the 100GAUI-1 C2C/C2M interfaces, in addition to the 100GAUI-2 and other interfaces currently listed.

## SuggestedRemedy

Add Clause 154 and 154.1 to the draft.
Amend Table 154-1 to include 100GAUI-1 C2C and 100GAUI-1 C2M, both optional.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy and also update Clause 80 appropriately. Implement with editorial license.

| Cl 162 | SC 162.5 | P 157 | L 17 | \# 1-125 |
| :---: | :---: | :---: | :---: | :---: |
| Hidaka, |  | Credo Semiconductor |  |  |
| Comme | pe E | Comment Status D |  | PICS (bucket2) |

PICS entry seems missing for "shall" for the max delays listed in Table 162-4.

## SuggestedRemedy

Add a PICS entry "The sum of the transmit and the receive delay at one end of the link shall be no more than the maximum delays listed in Table 162-4" with a reference to clause 162.5.
Proposed Response Response Status w PROPOSED REJECT.
Following the precedent from Clause 136.14, the table in Clause 162.14.3 contains an entry for delay requirements that refers back to Clause 162.5 and specifies that the delay constraints be met

Comment Type E Comment Status D (bucket2)
Stating the GAUI lane amounts in an increasing order makes more sense

## SuggestedRemedy

Replace 100GAUI-1 and 100GAUI-2 order on lines 47 and 51
Proposed Response Response Status w
PROPOSED REJECT.
It is common practice to list in order of lane rate. The proposed changes do not improve the accuracy or clarity of the draft.

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| CI 162 | SC 162.6.1 | P 158 | L 1 |
| :--- | :---: | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor | \# l-126 |  |
| Comment |  |  |  |
| PICS (bucket2) |  |  |  |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew at SP3 for 100GBASE-CR1 less than 54ns.

SuggestedRemedy
Add a PICS entry "The Skew at SP3 for 100GBASE-CR1 shall be less than 54 ns " with a reference to clause 162.6.1.
Proposed Response Response Status W PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.

| Cl 162 SC 162.6.1 | P158 L 4 | \# I-127 |
| :---: | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor |  |

Comment Type E Comment Status D
PICS (bucket2)
PICS entry seems missing for "shall" for the skew at SP4 for 100GBASE-CR1 less than 134ns.

## SuggestedRemedy

Add a PICS entry "The Skew at SP4 for 100GBASE-CR1 shall be less than 134 ns " with a reference to clause 162.6.1.
Proposed Response Response Status w
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.

| $C l$ | 162 | $S C$ | 162.6.1 |
| :--- | :---: | :---: | :---: |
| Hidaka, Yasuo | P158 | L 8 | Credo Semiconductor |

2

Comment Type E
Comment Status D
PICS entry seems missing for "shall" for the skew at SP5 for 100GBASE-CR1 less than 145ns.
SuggestedRemedy
Add a PICS entry "The Skew at SP5 for 100GBASE-CR1 shall be less than 145 ns " with a reference to clause 162.6.1.
Proposed Response Response Status w PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.
TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

| Cl $162 \quad$ SC $\mathbf{1 6 2 . 6 . 2}$ | P 158 | L 23 |
| :--- | :---: | :---: |

PICS entry seems missing for "shall" for the skew at SP3 for 200GBASE-CR2 and 400GBASE-CR4 less than 54ns.

## SuggestedRemedy

Add a PICS entry "The Skew at SP3 for 200GBASE-CR2 and 400GBASE-CR4 shall be less than 54 ns " with a reference to clause 162.6.2.
Proposed Response
Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.


PICS entry seems missing for "shall" for the skew variation at SP3 for 200GBASE-CR2 and 400GBASE-CR4 less than 600ps.

## SuggestedRemedy

Add a PICS entry "The Skew Variation at SP3 for 200GBASE-CR2 and 400GBASE-CR4 shall be less than 600ps" with a reference to clause 162.6.2.
Proposed Response Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.
Credo Semiconductor

| $C l 162$ | $S C$ | 162.6.2 |
| :--- | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor | L 26 |

Comment Type E Comment Status D PICS (bucket2)

PICS entry seems missing for "shall" for the skew at SP4 for 200GBASE-CR2 and 400GBASE-CR4 less than 134ns.

## SuggestedRemedy

Add a PICS entry "The Skew at SP4 for 200GBASE-CR2 and 400GBASE-CR4 shall be less than 134ns" with a reference to clause 162.6.2.
Proposed Response Response Status w
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.

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| CI 162 | SC 162.6.2 | P 158 |
| :--- | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor | \# 26 |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew variation at SP4 for 200GBASE-CR2 and 400GBASE-CR4 less than 3.4 ns .

## SuggestedRemedy

Add a PICS entry "The Skew Variation at SP4 for 200GBASE-CR2 and 400GBASE-CR4 shall be less than 3.4 ns " with a reference to clause 162.6.2.
Proposed Response
Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.

| Cl 162 | SC 162.6.2 | P 158 |
| :--- | :--- | :--- |
| Hidaka, Yasuo | Credo Semiconductor | L 30 |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew variation at SP5 for 200GBASE-CR2 and 400GBASE-CR4 less than 3.6 ns .

## SuggestedRemedy

Add a PICS entry "The Skew Variation at SP5 for 200GBASE-CR2 and 400GBASE-CR4 shall be less than 3.6 ns " with a reference to clause 162.6.2.
Proposed Response
Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.

| CI 162 | SC 162.6.2 | P 158 | $L 30$ |
| :--- | :---: | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor | \# I-133 |  |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew at SP5 for 200GBASE-CR2 and 400GBASE-CR4 less than 145ns.

## SuggestedRemedy

Add a PICS entry "The Skew at SP5 for 200GBASE-CR2 and 400GBASE-CR4 shall be less than 145ns" with a reference to clause 162.6.2.
Proposed Response Response Status w

## PROPOSED REJECT.

There is already a PICS entry "SC" to cover multiple requirements in 162.6 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses.

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| $C l 162$ | SC 162.9.2 | P 165 |
| :--- | :---: | :---: |
| Grow, Robert | RMG Consulting |  |

Comment Type ER Comment Status D (bucket2)
Similar misuses of "comprise" have been rewritten using "compose" in P802.3/D3.0. This text also contradicts other text where a path is composed of one or more lanes. In general in 802.3 a data path is composed of a set of signals (e.g., xMII), one or more lanes in other sublayer descriptions, etc. Here, it states that a "path corresponds to one MDI lane"yet on p. 256, I. 12 it says "Each 100GAUI-1, 200GAUI-2, and 400GAUI-4 C2M data path contains one, two, or four differential lanes." This subclause is titled signal path, yet the text uses path without qualifier. In other parts of the document "channel signal path" is used. This in general is confusing
SuggestedRemedy
162.9.2 MDI connections

The MDI transmit and receive data paths are point-to-point connections. Each MDI data path is composed of one or more MDI lane(s). Each MDI lane is composed of two complementary signals, forming a balanced differential pair.

For 100GBASE-CR1, there is one differential lane in each direction for a total of two pairs or four
connections. For 200GBASE-CR2, there are two differential lanes in each direction for a total of four pairs, or eight connections. For 400GBASE-CR4, there are four differential lanes in each direction for a total of eight pairs, or sixteen connections.
Proposed Response
Response Status W
PROPOSED ACCEPT IN PRINCIPLE
The text in Clause 162 follows the precedent set in Clause 136, although "composed" is used rather than "comprised" in 802.3dc. However, the suggested remedy provides a clearer description of the signal paths.
Implement the suggested remedy.

| $C l$ | 162 | $S C$ | 162.9 .3 | $P 166$ |
| :--- | :--- | :--- | :--- | :--- |

Ran, Adee Cisco Systems, Inc.
Comment Type E Comment Status D (bucket2)

| CI 162 | SC 162.9.4.1 | P 174 |
| :--- | :---: | :---: |

Comment Type T Comment Status D
(bucket2)
This paragraph provides the nominal value for the UI. This is not provided in 162 for KR, in 120 F for C 2 C , or in 120 G for C 2 M . It is not necessary to specify this number since it is easily determined by the nominal signaling rate. To be consistent with other similar PMD/AUI clauses this sentence should be removed.

## SuggestedRemedy

Remove the following sentence: "This translates to a nominal unit interval of approximately 18.8235 ps."
Proposed Response Response Status W
PROPOSED ACCEPT.

| $C l 162$ | $S C$ | 162.11 | $P 181$ |
| :--- | :---: | :---: | :---: |
| Ben-Artsi, Liav | Marvell Semiconductor, | L 18 | l-232 |

The term twinaxial cabling os used in multiple places, but never defined.

## SuggestedRemedy

Suggest changing twinaxial cable to "twinaxial shielded balanced copper cable", which would explain it a bit better
Proposed Response Response Status w PROPOSED REJECT.
1.4 Definitions includes twinaxial cable used in clauses characterizing this cable assembly ype. See 1.4.480 twinaxial cable: A cable similar to coaxial cable in construction but containing two insulated inner conductors rather than one.
"peak" in Rpeak should be a subscript.

## SuggestedRemedy

Format per comment
Proposed Response Response Status W
PROPOSED ACCEPT

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| Cl 162 | SC 162.11.2 | P 182 | L 6 |
| :--- | :---: | :---: | :--- |
| Brown, Matthew | Huawei Technologies Canada | \# I-22 |  |

$\begin{array}{llc}\text { Brown, Matthew } & \text { Huawei Technologies Canada } \\ \text { Comment Type T Comment Status D Channel ILdd (bucket2) }\end{array}$
The specified for ILDD says the value "should be greater than or equal" to Equation 162-
17, but Equation 162-17 is an inequality. Change the wording to the form used in 120G.4.1.
SuggestedRemedy
Change: "The measured differential-mode to differential-mode insertion loss of a cable assembly shall be greater than or equal to the minimum cable assembly differential-mode to differential-mode insertion loss given in Equation (162-17) and illustrated in Figure 162-7."
To: "The channel differential-mode to differential-mode insertion loss shall meet Equation (162-17), which is illustrated in Figure 162-7."
In Equation 162-17 change ILddmin to ILdd.
Change the description of ILddmin (now ILdd) to "is the cable assembly differential-mode to differential-mode insertion loss in $\mathrm{dB}^{\prime \prime}$
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment \#56

| $C l$ | 162 | $S C$ | 162.11 .2 | $P 182$ |
| :--- | :--- | :---: | :---: | :---: |

Ran, Adee Cisco Systems, Inc.
Comment Type TR Comment Status D Channel ILdd (bucket2)
The text specifying the minimum insertion loss and equation 162-17 are inconsistent: The text says the ILDD shall be lower than the limit defined by the equation, but the equation has "ILDD_min(f) >="; this reads as if the limit is anywhere below the line defined by the equation, so the limit is not defined.

The suggested remedy is a minimal change. Alternatively, the definition can be changed to state that ILDD "shall meet the equation" and have the equation in terms of ILDD instead of ILDDmin, as done in other similar cases.

SuggestedRemedy
In equation 162-17, change ">=" to "=".
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Change ILddmin(f) $>/=($ equation 162-17) to $\operatorname{ILdd}(\mathrm{f})>/=I L d d m i n(\mathrm{f})=($ equation 162-17) Add
$\operatorname{ILdd}(\mathrm{f})$ is the measured cable assembly differential-mode to differential-mode insertion loss in dB

"The scattering parameters for a PCB transmission line are calculated using the method defined in 93A.1.2.3 using Equation (93A-13), Equation (93A-14) and the parameter values given in Table 162-20"

93A.1.2.3 (in the base document) includes equations 93A-13 and 93A-14, so there is no need to include these references in addition, with repetitive "using".
(If they are to be retained, a serial comma should be inserted after Equation (93A-14))
SuggestedRemedy
Change the quoted sentence to
"The scattering parameters for a PCB transmission line are calculated using the method defined in 93A.1.2.3 with the parameter values given in Table 162-20".
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE
Implement the suggested remedy.
Also, in Table 162-20 row 5 change the parameter "t" back to Greek letter Tau.

SC 162.11.7.1

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| Cl 162 | SC 162.11.7.2 | P 189 | L 35 |
| :--- | :---: | :---: | :---: |
| Ran, Adee |  | Cisco Systems, Inc. | \# l-59 |
| Comment Type | E | Comment Status D |  |
| (bucket2) |  |  |  |

The sentence "Annex 162C specifies the MDIs for 100GBASE-CR1, 200GBASE-CR2,
400GBASE-CR4." seems unnecessary and out of place here (subclause title is "Signal and crosstalk paths used in calculation of COM").

The same sentence appears in the next subclause 162.12, MDI specifications, where it makes more sense, so it may be an unintended leftover.

## SuggestedRemedy

Consider deleting this sentence.

## Proposed Response Response Status w

PROPOSED ACCEPT IN PRINCIPLE
Delete the sentence referenced in the comment.

| Cl 162 | SC 162.14.3 | P 192 | L 32 |
| :--- | :---: | :---: | :---: |
| Ran, Adee |  | Cisco Systems, Inc. | \#-60 |
| Comment Type E | Comment Status D | PICS (bucket2) |  |


| Cl $162 \quad$ SC 162.14.4.5 | P 196 | L 8 |
| :--- | :--- | :--- |
| Hidaka, Yasuo | Credo Semiconductor |  |
| Comment Type T | Comment Status D |  |
| The meaning of "all channels within the cable assembly" is not clear. |  |  |

In item FEC100, "RS(544,514)" is larger than surrounding text.
Other items that include large text (different text) are CA2, CA5, CA6.

## SuggestedRemedy <br> Make text size match the surrounding text.

Proposed Response Response Status PROPOSED ACCEPT.

| Cl 162 |  | 62 | P 194 | L 17 | \# | I-137 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hidaka, Yasuo |  |  | Credo Semiconductor |  |  |  |
| Comme | pe | E | Comment Status D |  |  | PICS | Item PC6 refers to clause 136.8.11.4.1.

## SuggestedRemedy

Change the reference of PC6 from 136.8.11.4.1 to 162.9.3.1.3.
Proposed Response Response Status W
PROPOSED ACCEPT.

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| Cl 162A SC 162A | P 284 | L 9 |  |
| :--- | ---: | ---: | ---: |
| Dawe, Piers J G | NVIDIA |  | \#-213 |

Comment Type E
Comment Status D
(bucket2)

I wondered why 162.9.3 was referring to an annex whose title seemed to be nothing to do with the subject.
The title of this annex is "TP0 and TP5 test point parameters and channel characteristics
..." yet it contains recommended transmitter and receiver characteristics, which aren't
mentioned in 162A. 1 Overview, "This annex provides information on..." either. I don't recognise "test point parameters" as including transmitter IC recommendations

## SuggestedRemedy

Change the title from
TP0 and TP5 test point parameters and channel characteristics for 100GBASE-CR1
200GBASE-CR2, and 400GBASE-CR4
to
Transmitter, receiver and channel recommendations at test points TP0 and TP5 for 100GBASE-CR1, 200GBASE-CR2, and 400GBASE-CR4
Change the first sentence from
This annex provides information on parameters associated with test points TP0 and TP5 that might not be testable in an implemented system.
to
This annex provides information on transmitter, receiver and channel parameters associated with test points TP0 and TP5 that might not be estable in an implemented system.
Proposed Response
Response Status W
PROPOSED ACCEPT IN PRINCIPLE
Change the title from
TP0 and TP5 test point parameters and channel characteristics for 100GBASE-CR1, 200GBASE-CR2, and 400GBASE-CR4
to
Transmitter, receiver and channel parameters associated with test points TP0 and TP5 for 100GBASE-CR1, 200GBASE-CR2, and 400GBASE-CR4
Change the first sentence
from
This annex provides information on parameters associated with test points TP0 and TP5 that might not be testable in an implemented system.
to
This annex provides information on transmitter, receiver and channel parameters associated with test points TP0 and TP5 that might not be testable in an implemented system.

| Cl 162A SC 162A | P 284 | L15 | \# I-214 |
| :--- | ---: | ---: | ---: |
| Dawe, Piers J G | NVIDIA |  |  |
| Comment Type E | Comment Status D | (bucket2) |  |

"TP0 and TP5 that might not be testable": see style guide
SuggestedRemedy
TP0 and TP5, which might not be testable
Proposed Response Response Status W PROPOSED ACCEPT.

| Cl 162A SC 162A.4 | P 285 | L1 | \# I-215 |
| :--- | ---: | ---: | ---: |
| Dawe, Piers J G | NVIDIA |  |  |
| Comment Type E | Comment Status D |  | (bucket2) | ILPCBmin

SuggestedRemedy
ILddPCBmin
Proposed Response Response Status W PROPOSED ACCEPT.

| Cl 162B | SC 162B.2.1 | P 291 | L 3 |
| :--- | ---: | ---: | ---: |
| Dawe, Piers J G | NVIDIA |  | \# l-216 |

Comment Type E Comment Status D (bucket2) Please make it easier for the reader to judge the size of these losses. Also, it's test fixture reference ... loss as in the text, not reference test fixture ... loss.
SuggestedRemedy
Please put ILddcatf on Figure 162B-1, and label the two lines (e.g. make one dashed),
change figure title to "reference differential-mode to differential-mode insertion losses of test fixtures", refer to it from 162B.3, delete Figure 162B-2
Proposed Response

## Response Status W

PROPOSED ACCEPT IN PRINCIPLE
Graph ILddcatf on Figure 162B-1; delete Figure 162B-2.
Change figure 162B-1 title to " Test fixtures PCB reference differential-mode to differentialmode insertion losses"

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| Cl 163 | SC 163.6.1 | P 201 | L 18 | \# -142 |
| :---: | :---: | :---: | :---: | :---: |
| Hidaka, |  | Credo Semiconductor |  |  |
| Comme | E | Comment Status D |  | PICS (bucket2) |

PICS entry seems missing for "shall" for the skew at SP3 for 100GBASE-KR1 less than 54ns.

SuggestedRemedy
Add a PICS entry "The Skew at SP3 for 100GBASE-KR1 shall be less than 54 ns " with a reference to clause 163.6.1.
Proposed Response Response Status w PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6.1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

| CI 163 | SC 163.6.1 | P 201 | $L 21$ |
| :--- | :--- | :--- | :--- |
| Hidaka, Yasuo | Credo Semiconductor | \# |  |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew at SP4 for 100GBASE-KR1 less than 134ns.

SuggestedRemedy
Add a PICS entry "The Skew at SP4 for 100GBASE-KR1 shall be less than 134 ns " with a reference to clause 163.6.1.
Proposed Response Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6.1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

| Cl 163 | SC 163.6.1 | P 201 | $L 25$ |
| :--- | :--- | :--- | :--- |
| Hidaka, Yasuo | Credo Semiconductor | \# I-144 |  |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew at SP5 for 100GBASE-KR1 less than 145ns.

## SuggestedRemedy

Add a PICS entry "The Skew at SP5 for 100GBASE-KR1 shall be less than 145 ns " with a reference to clause 163.6.1.
Proposed Response Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6.1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

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| Cl $163 \quad S C$ 163.6.2 | P 201 | $L 40$ |
| :--- | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor | \# I-146 |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew variation at SP3 for 200GBASE-KR2 and 400GBASE-KR4 less than 600ps

## SuggestedRemedy

Add a PICS entry "The Skew Variation at SP3 for 200GBASE-KR2 and 400GBASE-KR4 shall be less than 600ps" with a reference to clause 163.6.2.
Proposed Response
Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6 .1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

| Cl 163 | SC 163.6.2 | P 201 | L 40 |
| :--- | :--- | :--- | :--- |
| Hidaka, Yasuo | Credo Semiconductor | \# I-145 |  |

Comment Type E Comment Status D
PICS (bucket2)
PICS entry seems missing for "shall" for the skew at SP3 for 200GBASE-KR2 and 400GBASE-KR4 less than 54ns.

## SuggestedRemedy

Add a PICS entry "The Skew at SP3 for 200GBASE-KR2 and 400GBASE-KR4 shall be less than 54ns" with a reference to clause 163.6.2.
Proposed Response Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6 . (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

| CI $163 \quad$ SC 163.6.2 | P 201 | L 43 |
| :--- | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor | \# I-148 |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew variation at SP4 for 200GBASE-KR2 and 400GBASE-KR4 less than 3.4 ns .

## SuggestedRemedy

Add a PICS entry "The Skew Variation at SP4 for 200GBASE-KR2 and 400GBASE-KR4 shall be less than 3.4 ns " with a reference to clause 163.6.2.
Proposed Response
Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6.1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

| Cl 163 | SC 163.6.2 | P 201 | L 43 |
| :--- | :---: | :---: | :---: |

PICS entry seems missing for "shall" for the skew at SP4 for 200GBASE-KR2 and 400GBASE-KR4 less than 134ns.

## SuggestedRemedy

Add a PICS entry "The Skew at SP4 for 200GBASE-KR2 and 400GBASE-KR4 shall be less than 134ns" with a reference to clause 163.6.2.
Proposed Response
Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6.1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

| CI 163 | SC 163.6.2 | P 201 | $L 46$ |
| :--- | :--- | :--- | :--- |
| Hidaka, Yasuo | Credo Semiconductor | \# I-150 |  |

Comment Type E Comment Status D PICS (bucket2)
PICS entry seems missing for "shall" for the skew variation at SP5 for 200GBASE-KR2 and 400GBASE-KR4 less than 3.6 ns .

## SuggestedRemedy

Add a PICS entry "The Skew Variation at SP5 for 200GBASE-KR2 and 400GBASE-KR4 shall be less than 3.6 ns " with a reference to clause 163.6.2.
Proposed Response Response Status W
PROPOSED REJECT.
There is already a PICS entry "SC" to cover multiple requirements in 163.6.1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.

| $C l 163$ | $S C$ | 163.6.2 |
| :--- | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor | \# 46 |
| I-149 |  |  |

Comment Type E Comment Status D PICS (bucket2)

PICS entry seems missing for "shall" for the skew at SP5 for 200GBASE-KR2 and 400GBASE-KR4 less than 145 ns .

## SuggestedRemedy

Add a PICS entry "The Skew at SP5 for 200GBASE-KR2 and 400GBASE-KR4 shall be less than 145ns" with a reference to clause 163.6.2.
Proposed Response

> Response Status w

## PROPOSED REJECT.

There is already a PICS entry "SC" to cover multiple requirements in 163.6.1 (denoted by shall statements). This is consistent with preceding 100G Ethernet and faster PMD clauses. Align with similar comments against 162.
TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

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| $C l 163$ | $S C$ | 163.9.2.7 | $P 207$ |
| :--- | :---: | :---: | :---: |
| Ran, Adee | Cisco Systems, Inc. | \# 10 |  |
| C-63 |  |  |  |

Comment Type TR Comment Status D AC CM noise (bucket2)
The peak-to-peak common-mode noise measured can be significantly increased by mismatched cabling in the test setup or routing in the test fixture. A difference of 1 mm between single-ended path translates to $\sim 25 \%$ of a UI. This would cause significant conversion of the differential signal to CM signal and degradation the SCMR. This commonmode signal would be correlated to the data pattern, but so far we have not separated the CM specification to correlated and uncorrelated components.

Also, there are no conversion loss specifications for test fixture (even if we had, they would be difficult to measure). Poorly designed test fixtures may cause a good device to fail the fest even in a well-calibrated test setup. This may make SCMR seem difficult to meet.

It may be possible to calibrate the measurement for differences between cables, mitigating some of the problem. But we may not want to provide an open ticket to full deskew of the single-ended signals, because it can "correct" problems in the DUT as well as in the test system.

As a minimum remedy to this problem, it is suggested to add a note informing the reader that good matching of the test fixture and calibration of the test setup is recommended.

Alternatively, the CM measurement could be separated to correlated and uncorrelated, and SCMR calculated only for the uncorrelated component. This would be preferable if there is consensus for this path.

## SuggestedRemedy

Add an informative NOTE at the end of this subclause:
NOTE-SCMR measurement may be sensitive to mismatches between the single-ended paths in the test fixture and the test setup. Careful design and calibration of the test system is recommended.

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE
Add an informative NOTE at the end of this subclause:
NOTE-SCMR measurement may be sensitive to mismatches between the single-ended paths in the test fixture and the test setup. Careful design and calibration of the test system is recommended.

| $C l 163$ | $S C 163.9 .2 .7$ | $P 207$ | $L 11$ |
| :--- | :--- | :---: | :---: |
| Ran, Adee | Cisco Systems, Inc. | I-64 |  |

Comment Type E
Comment Status D
AC CM noise (bucket2)
Incorrect cross-reference to Table 163-11-SCMR $(\mathrm{min})$ is specified in Table 163-5.
Also, this subclause is also referred to by Table 120F-1 and maybe others in the future. To separate definition from required limit, the "shall" statement should be placed at the end of the subclause, as done in 163.9.2.6
SuggestedRemedy
In the sentence "The signal to AC common-mode noise ratio shall meet the specification for SCMR ( min ) in Table 163-11", change Table 163-11 to Table 163-5.

Move this sentence to the end of the subclause, after equation 163-2 and its variable list. Proposed Response Response Status W PROPOSED ACCEPT.


The specification for SCMR $(\mathrm{min})$ is defined in Table 163-5, instead of Table 163-11.
SuggestedRemedy
Change Table 163-11 to Table 163-5. Correct the hyperlink as well.
Proposed Response
Response Status W
PROPOSED ACCEPT.


The sentence specifying insertion loss refers to a maximum value, but the equation is an inequality. Reword the specify to be of the for used in 120G.4.1.
SuggestedRemedy
Change: "The maximum recommended differential-mode to differential-mode insertion loss of the channel is given by Equation (163-6)."
To: "The channel differential-mode to differential-mode insertion loss should meet Equation (163-6)."

Proposed Response Response Status W
PROPOSED ACCEPT.

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| Cl $163 \quad$ SC 163.11 | P 218 | $L 37$ | \# I-90 |
| :--- | :---: | :---: | :--- |
| Grow, Robert | RMG Consulting |  |  |
| Comment Type E | Comment Status D | (bucket2) |  |

Similar misuses of "comprise" have been rewritten using "compose" in P802.3/D3.0.
SuggestedRemedy
"The MDI is composed of..."
Proposed Response Response Status W
PROPOSED ACCEPT.

| Cl $163 \quad$ SC 163.13.4.3 | P 222 | L 49 |
| :--- | :---: | :---: |
| Hidaka, Yasuo | Credo Semiconductor |  |
| Comment Type E | Comment Status D |  |
| "peak" is missing. | (bucket2) |  |
| SuggestedRemedy |  |  |
| Change "Difference linear fit pulse ratio" to "Difference linear fit pulse peak ratio". |  |  |

Proposed Response Response Status w
PROPOSED ACCEPT.



In expressions that include italics, parentheses and numbers should be set in upright font.
This line includes some instances, and there are many others.
SuggestedRemedy
Format per comment, apply throughout the document.
Proposed Response Response Status W PROPOSED ACCEPT.

| Cl 163A SC 163A.3.1.3 | P 319 | L 24 | \# l-221 |
| :--- | ---: | ---: | ---: |
| Dawe, Piers J G | NVIDIA |  |  |
| Comment Type E | Comment Status D |  |  | Comment Type E Comment Status D

Eq 163A-5 is part of step b, and Eq 163A-4 is part of step d, is after b.
SuggestedRemedy
Swap equations 163A-5 and 4
Proposed Response Response Status W PROPOSED ACCEPT.

| Cl 163A S | SC 163A.3.2.1 | P 320 | L9 | \# 1-73 |
| :---: | :---: | :---: | :---: | :---: |
| Ran, Adee | Cisco Systems, Inc. |  |  |  |
| Comment Type | pe E | Comment Status D |  | (bucket2) | Equation 163A-7 is truncated from the top.

SuggestedRemedy
Fix it.
Proposed Response Response Status w PROPOSED ACCEPT.

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| $C l$ 163A | SC 163A.3.2.1 | P 320 | L 24 | \# 1-74 |
| :--- | :---: | :---: | :---: | :---: |
| Ran, Adee |  | Cisco Systems, Inc. |  |  |
| Comment Type E | Comment Status D | (bucket2) |  |  |

Equation 163A-6 and Equation 163A-10 use the reference voltage terms $v \mathrm{f}$ (ref) and
v _peak(ref). These are not defined here but in 163A.3.1.1. A cross-reference would help.
SuggestedRemedy
Add a paragraph at the end of this subclause: " $v \_f(r e f)$ and $v \_p e a k(r e f)$ are defined in 163A.3.1.1."
Proposed Response Response Status w
PROPOSED ACCEPT.

| $C l 167$ | SC 167 | P 225 |
| :--- | :--- | :--- |
| Parsons, Earl | CommScope, Inc. | \# I-100 |

Comment Type T Comment Status D (bucket2)

Include modification to Clause 167 (from 802.3db).
SuggestedRemedy
Show modified Table 167-1 and Table 167-2 with rows for 120F--100GAUI-1 C2C and 120G--100GAUI1 C2M
Proposed Response Response Status w
PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment \#36.

| Cl 167 | SC 167.1 | P 225 | L 0 | \# 1-36 |
| :---: | :---: | :---: | :---: | :---: |
| Ran, Adee |  | Cisco Systems, Inc. |  |  |

Comment Type
Comment Status D
(bucket2)

Clause 167 (part of 802.3 db ) defines six new PHY with optical PMDs that use 53.125 GBd signaling. These PHYs may use the 100GAUI-1, 200GAUI-2, and 400GAUI-4 C2C/C2M interfaces, in addition to the interfaces currently listed.

Since 802.3 db is scheduled to be published before 802.3 ck , this should be an amendment of clause 167.

## SuggestedRemedy

Add Clause 167 and 167.1 to the draft
Amend Table 167-1 to include 100GAUI-1 C2C and 100GAUI-1 C2M, both optional.
Amend Table 167-2 to include 200GAUI-2 and 400GAUI-4, each with C2C and C2M, all optional.

Proposed Response Response Status
PROPOSED ACCEPT

