Cl **00** *SC* **0** *P* **142** *L* **31** # 208

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *(B1) (L)*

State diagrams are generally referenced using their title followed by the figure number in parentheses, such as "the training control state diagram (Figure 178B–10)" (in 178B.7.8). However, it is inconsistent across the draft - often the figure title is missing, and sometimes "see" is included in the parentheses too.
Omitting the state diagram name is not reader-friendly, especially with external links, and "see" is redundant.

SuggestedRemedy

Make all references to state diagrams have the format "<title> (<figure cross-reference>)", without "see". Any further detials (such as a specific state) should follow the parentheses.

I originally found this issue in 178B so I listed in detail the places where corrections should be made (subclauses and the cross-reference they include):
178B.4: Figure 178B-10
178B.6: Figure 178B-9
178B.7: Figure 178B-10, Figure 178B-11, Figure 178B-12
178B.7.2: Figure 178B-10, Figure 178B-11, Figure 178B-12
178B.7.3.3: Figure 178B-10
178B.7.6: Figure 178B-11
178B.8.2.1: Figure 178B-9
178B.8.2.3: Figure 178B-9
178B.8.3: Figure 178B-10, Figure 178B-12
178B.8.3.1: Figure 178B-10, Figure 178B-11, Figure 178B-12
178B.8.3.3: Figure 178B-10
178B.8.3.4: Figure 178B-10
178B.9: Figure 178B-9

Other instances are in 73.4.3, 119.2.4.1.1, 119.2.5.8.1, 175.2.6.2, 175.2.6.2.2, 175.2.6.3, 176.4.2.2, 176.4.3.2.1, 176.4.3.2.2, 176.4.3.2.3, 176.4.4.2, 176.4.4.2.1, 177.5.2, 177.5.3, 177.7.2.1, 184.5.4, 184.7.2.2, 185.6.1, 186.2.4.7, 186.4.2.1. (I only looked for the string "state diagram"; please check for bare references to the corresponding figures in addition).

Implement with editorial license across the draft where applicable.

[CC 178B, 73, 119, 175, 176, 177, 184, 185, 186]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
For some of the references called out in the suggested remedy it may not make sense to implement the proposed change based on the context of the surrounding text, but for other cases (especially those related to state variable definitions) the proposed change would improve the consistency of such references across the draft.

Implement the suggested remedy at the discretion of the clause editor and with editorial license.

[Editor's note: CC 178B, 73, 119, 175, 176, 177, 184, 185, 186]

Cl **73A** *SC* **73A.1a** *P* **722** *L* **17** # 420

Shrikhande, Kapil — Marvell Technologies

Comment Type **T** *Comment Status* **D** *(B1) (L)*

Extended FEC ability is part of the Message code 2 encoding -- bits EF0 through EF3. However, there isn't a specific use of extended FEC ability for any PHY in 802.3dj. Why reserve 4 bits for extended FEC ability when we do not have any application for this ?

SuggestedRemedy

It seems better to just call bits EF0-EF3 "Reserved" and let future projects define how to use them. Change EFO-EF3 in Table 73A-1a from "Reserved for extended FEC ability" to "Reserved".

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The adopted baseline proposal explicitly states that a new "Message Next Page" was to be defined with bits reserved for future FEC negotiation (see: https://www.ieee802.org/3/dj/public/24_01/lusted_3dj_04_2401.pdf).

Insufficient justification has been given for making the suggested change.

Cl **73A** *SC* **73A.1a** *P* **722** *L* **22** # 54

Bruckman, Leon — Nvidia

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

The note in section 179.9 says: "A PMD can comply with one or more host classes". It is not clear then what should such an interface report

SuggestedRemedy

Add text: "If the interface complies with more than one host class it shall report the class with the minimum loss"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change table heading in Table 73A-1b from "Technology" to "Host class".

In the paragraph above Table 73A-1b, change:
"See Table 73A–1b for more details of the CR Host Class bit definitions, and 179A.4 for information regarding host channel insertion loss."
to:
"Table 73A–1b defines how EH0 and EH1 indicate CR host class. When the host class of the PHY is set to a value other than 0 0, the PMD shall be compliant to that host class. If the PMD is compliant to more than one host class, the recommended priority of which host class to indicate would be HL followed by HN. So for example, HL would be advertised if the PMD supports all three host classes. See 179.9 for host class compliance requirements."

Remove unnecessary capitilization of "host class" in Annex 73A

Implement with editorial licence.

Cl **116** *SC* **116.1.2** *P* **160** *L* **6** # 401

Swenson, Norman — Nokia, Point2

Comment Type **TR** *Comment Status* **D** *(B1) (CG)*

Figure 116-1 shows only a single PMA sublayer in the architectural diagram with the PCS above and the PMD below. There is no indication that multiple PMA sublayers (interconnected by AUI-n channels) can exist between the PCS and the PMD.

SuggestedRemedy

Add a note to Figure 116-1 as follows: "Note: The single PMA sublayer shown can optionally be realized as several layered PMA sublayers, as illustrated in Annex 120A or Annex 176B.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Note comments #401, #402, and #404 point out the same concern in different clauses.
The comment is referring to Figure 116-1, which is in the published base standard IEEE 802.3-2022 on page 4798.
As noted in the referencing text and the title, this figure illustrates the relationship of the 200GBASE and 400GBASE PHY types relative to the OSI layered model. It is not intended to provide extensive architectural variants that are permitted for the various PHY types. There are many other details missing here that vary between PHY types, such inclusion of the xMII Extender, xAUI-n within the PHY, 800GAUI-LR1 FEC sublayer, etc. Instead, the detailed information requested in the comment is provided in each PMD clause.

Cl **119** *SC* **119.1.4** *P* **187** *L* **13** # 86

Xu, Li — Huawei Technologies.

Comment Type **E** *Comment Status* **D** *(B1) (L)*

When describing the nominal rate of PMA at each lane, the 26.5625 Gtransfer/s is so strange and not aligned with that in PMA.

SuggestedRemedy

to aligh the description with PMA, 26.5625 Gtransfer/s should be changed to 26.5625 GBd

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The text referred to in the comment is text that is not being added or modified by the 802.3dj project and is therefore out of scope. The text referred to in the comment is only included as part of the editing instruction to put the text that is being added/modifed by 802.3dj (i.e. text that is underlined or strikethrough) into context.

Cl **119** *SC* **119.1.4** *P* **187** *L* **14** # 87

Xu, Li — Huawei Technologies.

Comment Type **T** *Comment Status* **D** *(B1) (L)*

The MAC data rate of 200 Gb/s is the speed, not the capacity.

SuggestedRemedy

delete "capacity for", like "which provides capacity for the MAC data rate of 200 Gb/s--> which provides the MAC data rate of 200 Gb/s "

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The text referred to in the comment, is text that is not being added or modified by the 802.3dj project and is therefore out of scope. The text referred to in the comment is only included as part of the editing instruction to put the text that is being added/modifed by 802.3dj (i.e. text that is underlined or strikethrough) into context.

Cl **119** *SC* **119.1.4** *P* **199** *L* **39** # 326

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

We have both IS_SIGNAL.request and IS_SIGNAL.indication, both are not present in a 200/400GAUI-n

SuggestedRemedy

Change
"inst:IS_SIGNAL.indication which is carried outside"

To:
"inst:IS_SIGNAL.indication and inst.IS_SIGNAL.request which are carried outside"

In two places in item b)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **119** *SC* **119.1.4.2** *P* **188** *L* **35** # 88

Xu, Li — Huawei Technologies.

Comment Type **T** *Comment Status* **D** *(B1) (L)*

PMA:IS_UNITDATA_i.indication is one of the PMA service interface primitives, not data streams. So the sentence is technically not correct.

SuggestedRemedy

change 'as' to 'using' and the sentence is " In the receive direction, the PCS receives n parallel streams of data using PMA:IS_UNITDATA_i.indication " primitive

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
For consistency with the existing wording in 119.2.1, using "via" instead of "as" would be an improvement to the draft.

Change the first sentence of the second paragrpah of 119.1.4.2
From:
"In the receive direction, the PCS receives n parallel streams of data as PMA:IS_UNITDATA_i.indication and signal status information using the PMA:IS_SIGNAL primitive."
To:
"In the receive direction, the PCS receives n parallel streams of data via the PMA:IS_UNITDATA_i.indication primitive and signal status information via the PMA:IS_SIGNALindication primitive."

Implement with editorial license.

Cl **119** *SC* **119.1.4.2** *P* **188** *L* **39** # 89

Xu, Li — Huawei Technologies.

Comment Type **T** *Comment Status* **X** *(B1) (L)*

same as the above line

SuggestedRemedy

same as the above line

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
Assume that the comment and suggested remedy are referring to comment #88, and making the same point related to the use of the word "as", but this time for the first sentence in the third paragraph of 119.1.4.2. For consistency with the existing wording in 119.2.1, using "via" instead of "as" would be an improvement to the draft.

Change the first sentence of the third paragraph of 119.1.4.2
From:
"In the transmit direction, the PCS transmits n parallel streams of data as PMA:IS_UNITDATA_i.request and provides signal status information using the PMA:IS_SIGNAL.request primitive."
To:
"In the transmit direction, the PCS transmits n parallel streams of data via the PMA:IS_UNITDATA_i.request primitive and provides signal status information via the PMA:IS_SIGNAL.request primitive."

Implement with editorial license.

Cl **119** *SC* **119.2.4.1** *P* **191** *L* **20** # 90

Xu, Li — Huawei Technologies.

Comment Type **T** *Comment Status* **D** *(B1) (L)*

The descriptioin of the contents of each 66-bit block are not aligned in different clauses,with some mentioning transcoder and some not.
To align the descriptions in 175.2.4.1 and 172.2.4.1, mentioning of transcoder should be deleted.

SuggestedRemedy

Delete the transcoder, and modify the sentence as that in 172.2.4.1, as below:
"The contents of each 66-bit block are
contained in a vector tx_coded<65:0> with tx_coded<1:0> containing the sync header and the remainder of the bits the payload."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
While the comment does have merit, the text being referenced is text that is not being added or modified by the 802.3dj project and is therefore out of scope. The text referred to in the comment is only included as part of the editing instruction to put the text that is a being added/modifed by 802.3dj (i.e. text that is underlined or strikethrough) into context.

Cl **119** *SC* **119.2.5.3** *P* **191** *L* **51** # 91

Xu, Li — Huawei Technologies.

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Technically speaking, using created to describe 64B/66B blocks from FEC codeword is not accurate.

SuggestedRemedy

change created to decoded, and the sentence is "This may be achieved by setting the synchronization header to 11 for all 66-bit blocks decoded from these codewords by the
256B/257B to 64B/66B transcoder. "

Proposed Response *Response Status* **W**

PROPOSED REJECT.
While the comment does have merit, the text being referenced is text that is not being added or modified by the 802.3dj project and is therefore out of scope. The text referred to in the comment is only included as part of the editing instruction to put the text that is a being added/modifed by 802.3dj (i.e. text that is underlined or strikethrough) into context.

Cl **119** *SC* **119.2.5.3** *P* **191** *L* **51** # 92

Xu, Li — Huawei Technologies.

Comment Type **E** *Comment Status* **D** *(B1) (L)*

In the sentence, 'then' is not necessary.

SuggestedRemedy

delete 'then'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **119** *SC* **119.2.5.8** *P* **192** *L* **13** # 94

Xu, Li — Huawei Technologies.

Comment Type **E** *Comment Status* **D** *(B1) (L)*

when describing rate adaptation at the transmit PCS, LPI control character is also mentioned. But at the receive PCS, there is no LPI mentioned for rate adaptation. For insertion and deletion rules, 119.2.3.5 and 119.2.3.8, and 82.2.3.6 and 82.2.3.9 are referenced seperately.

SuggestedRemedy

The description and reference of rate adaptation at the two directions should be aligned, including LPI and reference for specific insertion and deletion rules.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The text referred to in the comment is text that is not being added or modified by the 802.3dj project and is therefore out of scope. The text referred to in the comment is only included as part of the editing instruction to put the text that is a being added/modifed by 802.3dj (i.e. text that is underlined or strikethrough) into context.

Cl **169** *SC* **169.1.2** *P* **201** *L* **6** # 402

Swenson, Norman — Nokia, Point2

Comment Type **TR** *Comment Status* **D** *(B1) (CG)*

Figure 169-1 shows only a single PMA sublayer in the architectural diagram with the PCS above and the PMD below. There is no indication that multiple PMA sublayers (interconnected by AUI-n channels) can exist between the PCS and the PMD.

SuggestedRemedy

Add a note to Figure 169-1 as follows: "Note: The single PMA sublayer shown can optionally be realized as several layered PMA sublayers, as illustrated in Annex 120F, Annex120G, or Annex 176B.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Note comments #401, #402, and #404 point out the same concern in different clauses.
The comment is referring to Figure 169-1, which is in the published amendment IEEE Std 802.3-2022 on page 162.
As noted in the referencing text and the title, this figure illustrates the relationship of the 200GBASE and 400GBASE PHY types relative to the OSI layered model. It is not intended to provide extensive architectural variants that are permitted for the various PHY types. There are many other details missing here that vary between PHY types, such inclusion of the xMII Extender, xAUI-n within the PHY, Inner FEC, etc. Instead, the detailed information requested in the comment is provided in each PMD clause.

Cl **169** *SC* **169.2.4b** *P* **206** *L* **7** # 241

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

Comment Type **E** *Comment Status* **D** *(B1) (CG)*

While the title is singular "FEC sublayer", the actual ext address multiple FEC sublayers

SuggestedRemedy

Change title from "FEC sublayer" to "FEC sublayers"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The subclauses 179.2.x are describing nomeclature in general terms. Each of these other subclauses describes a class of sublayer some of which list several types are listed. For instance, "169.2.4a Attachment Unit Interface (800GAUI-n)" lists four types of 800GAUI-n, 169.2.4 Physical Medium Attachment (PMA) sublayer lists three types of PMA. The title is consistent with the intent and with other similar subclauses.

Cl **169** *SC* **169.3.2** *P* **207** *L* **24** # 403

Swenson, Norman — Nokia, Point2

Comment Type **TR** *Comment Status* **D** *(B1) (CG)*

The PMA service interface can service a PMA sublayer above, but that is not indicated in the definition of PMA service interface. This is inconsistent with the wording in 116.3.2 for 200Gbps and 400Gbps networks.

SuggestedRemedy

Change
"PMA: for primitives issued on the interface between the PMA and the PCS or DTE 800GXS above called the PMA service interface"
to
"PMA: for primitives issued on the interface between the PMA and the PCS, DTE 800GXS, or PMA above called the PMA service interface"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **172** *SC* **172.1.5.2** *P* **257** *L* **19** # 95

Xu, Li — Huawei Technologies.

Comment Type **T** *Comment Status* **D** *(B1) (L)*

inst:IS_UNITDATA_0:31.indication is a primitive, not data stream. The accuracy of the description very similar to the comments above should be improved.

SuggestedRemedy

change 'as' to 'using' and the sentence is " In the receive direction, the PCS receives 32 parallel streams of data using inst:IS_UNITDATA_0:31.indication primitive and signal status information using the inst:IS_SIGNAL primitive. "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
For consistency with the existing wording in 172.2.1, using "via" instead of "as" would be an improvement. It makes sense to also update the equivalent text in 175.1.4.2 for consistency within the draft.

In 172.1.5.2 change the sentence on page 257 at line 19
From:
"In the receive direction, the PCS receives 32 parallel streams of data as inst:IS_UNITDATA_0:31.indication and signal status information using the inst:IS_SIGNAL primitive."
To:
"In the receive direction, the PCS receives 32 parallel streams of data via the inst:IS_UNITDATA_0:31.indication primitive and signal status information via the inst:IS_SIGNAL.indication primitive."

In 175.1.4.2 change the sentence on page 284 at line 30
From:
"In the receive direction, the PCS receives 16 parallel streams of data as inst:IS_UNITDATA_0:15.indication and signal status information using the inst:IS_SIGNAL primitive."
To:
"In the receive direction, the PCS receives 16 parallel streams of data via the inst:IS_UNITDATA_0:15.indication primitive and signal status information via tthe inst:IS_SIGNAL.indication primitive."

Implement with editorial license.

[Editor's note: CC: 175]

Cl **172** *SC* **172.1.5.2** *P* **257** *L* **22** # 96

Xu, Li — Huawei Technologies.

Comment Type **T** *Comment Status* **D** *(B1) (L)*

same as the above line, the inst:IS_UNITDATA_0:31.request is a primitive, not data stream. The suggested change is the same as above.

SuggestedRemedy

same as the above line

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
For consistency with the existing wording in 172.2.1, using "via" instead of "as" would be an improvement. It makes sense to also update the equivalent text in 175.1.4.2 for consistency within the draft.

In 172.1.5.2 change the sentence on page 257 and line 22
From:
"In the transmit direction, the PCS transmits 32 parallel streams of data as inst:IS_UNITDATA_0:31.request and provides signal status information using the inst:IS_SIGNAL.request primitive."
To:
"In the transmit direction, the PCS transmits 32 parallel streams of data via the inst:IS_UNITDATA_0:31.request primitive and provides signal status information via the inst:IS_SIGNAL.request primitive."

In 175.1.4.2 change the sentence on page 284 and line 33
From:
"In the transmit direction, the PCS transmits 16 parallel streams of data as inst:IS_UNITDATA_0:15.request and provides signal status information using the inst:IS_SIGNAL.request primitive."
To:
"In the transmit direction, the PCS transmits 16 parallel streams of data via the inst:IS_UNITDATA_0:15.request primitive and provides signal status information via the inst:IS_SIGNAL.request primitive."

Implement with editorial license.

[Editor's note: CC: 175]

Cl **172** *SC* **172.2.5.9** *P* **261** *L* **51** # 97

Xu, Li — Huawei Technologies.

Comment Type **E** *Comment Status* **D** *(B1) (L)*

a comma is missed in the sentence.

SuggestedRemedy

add a comma, and the sentence is "If using a stateless method, the stateless decoder defined in
119.2.5.8.2 should be used while the stateless decoder defined in 172.2.5.9.2 may be used."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **172** *SC* **172.2.5.9** *P* **261** *L* **52** # 346

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

The new sentence states to use the stateless decoder from 119 over using the 172 version. But there is also the error marking that should be done too, but we only point them towards the decoder. Indicate to th reader that if they choose to use the 119 decoder to also do the error marking too! Follow up to unsatisifed comment #459 from D2.1.

SuggestedRemedy

Insert the following after 119.2.5.8 ", including the additional error marking specified in 119.2.5.3,"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

If the stateless decoder from 119.2.5.8.2 is being used, then the additional error marking must also be done as specified in 119.2.5.3. The requirements of 119.2.5.3 are already included in 172.2.5.3 by reference.

Cl **174** *SC* **174.1.2** *P* **268** *L* **34** # 404

Swenson, Norman — Nokia, Point2

Comment Type **TR** *Comment Status* **D** *(B1) (CG)*

Figure 174-1 shows only a single PMA sublayer in the architectural diagram with the PCS above and the PMD below. There is no indication that multiple PMA sublayers (interconnected by AUI-n channels) can exist between the PCS and the PMD.

SuggestedRemedy

Add a note to Figure 174-1 as follows: "Note: The single PMA sublayer shown can optionally be realized as several layered PMA sublayers, as illustrated in Annex 120F, Annex120G, or Annex 176B.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Note comments #401, #402, and #404 point out the same concern in different clauses. As noted in the referencing text and the title, this figure illustrates the relationship of the 1.6TBASE PHY types relative to the OSI layered model. It is not intended to provide extensive architectural variants that are permitted for the various PHY types.There are many other details missing here that vary between PHY types, such inclusion of the xMII Extender, xAUI-n within the PHY, Inner FEC, etc. The detailed information requested in the comment is provided in each PMD clause.

Cl **174** *SC* **174.1.4** *P* **270** *L* **5** # 239

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

Comment Type **E** *Comment Status* **D** *(B1) (CG)*

Prior ethernet speeds have always introduced the electrical PHY type correlation before the optics. THis clause does the reverse for no clear reason.

SuggestedRemedy

Reverse positions of Table 174-2 and 174-3.
Change references to tables as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **174A** *SC* **174A.9.5** *P***747** *L***32** # 349

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CK)*

To be consistent with 178B use the order of AUI component or PMD instead of PMD or AUI component

SuggestedRemedy

Change "PMD or AUI component" to "AUI component or PMD" in the following places:
174A.9.5 first paragraph
174A.9.6 first paragraph
174A.9.7 first paragraph
Table 174A-1 footnote a
Table 174A-2 footnote a

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license.

Cl **174A** *SC* **174A.9.5** *P***747** *L***41** # 282

Ghiasi, Ali — Ghiasi Qunatum/Marvell

Comment Type **TR** *Comment Status* **D** *(B1) (CK)*

Hmax(k) is introduced but we don't say what Hmax(k) is!

SuggestedRemedy

Add sentence-Hmax(k) is the probability of maximum symbol errored, where k denotes number of errored symbol in a frame.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This might be clarified further. First by changing the variable name BER to BER_max. Then explaining that the mask is the limit given a BER equal to BER_max.
Change the variable name BER to BER_max. Update this variable name through the draft as appropriate.
Add the following sentence:
"H_max(k) is the probability of k error test symbols in a test block with given random bit errors with a BER equal to BER_max."
In the paragraph above, change the second sentence to:
"Compliance is determined by measuring an error histogram on each lane H_m(i)(k) and comparing the measured histogram to a calculated limit mask H_max(k)."

Cl **174A** *SC* **174A.9.7** *P***748** *L***40** # 190

Dudek, Mike — Marvell

Comment Type **TR** *Comment Status* **D** *(B1) (CK)*

If the Block error ratio for single lane method fails the PMD or AUI could still pass the multilane test (174A.9.6). It would be good to state that.

SuggestedRemedy

Add to the end of the last paragraph. "If this test fails, then the performance may be further verified using the method in 174A.9.6."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **174A** *SC* **174A.13** *P***755** *L***12** # 220

Ran, Adee — Cisco Systems

Comment Type **T** *Comment Status* **D** *(B1) (CK)*

The BER for entire PCS-to-PCS path should be given with greater precision, to correspond to BER_added used for AUI-C2C.

SuggestedRemedy

Change 2.92e-4 to 2.921e-4, in both Table 174A-1 and Table 174A-2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy and update the BER value throughout the draft as appropriate.
Implement with editorial license.
[Editor's note: CC: 178, 179, 180, 182, 185, 174A]

Cl **175** *SC* **175.2.4.1** *P* **287** *L* **18** # 209

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Here "The transmit PCS may use either the state-diagram encoder defined by Figure 119–14 or the stateless encoder defined in 119.2.4.1.2"
In 119.2.4.1 "The transmit PCS generates 66-bit blocks using either the state-diagram encoder defined in 119.2.4.1.1 or the stateless encoder defined in 119.2.4.1.2"

The text should be consistent in referring to a subclause rather than a figure for the definition.

Note that 172.2.4.1 also uses subclause references.

SuggestedRemedy

Change "defined by Figure 119–14" to "defined in 119.2.4.1.1".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **175A** *SC* **175A** *P* **757** *L* **52** # 309

Mi, Guangcan — Huawei Technologies Co., Ltd.

Comment Type **E** *Comment Status* **D** *(B1) (L)*

In the equations, cx_C should correspond to c_C, instead of c_A. Besides, cx_D should correspond to c_D, instead of c_B

SuggestedRemedy

Change c_A to c_C in Line 52;
Change c_B to c_D in Line 53.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **175A** *SC* **175A** *P* **761** *L* **18** # 310

Mi, Guangcan — Huawei Technologies Co., Ltd.

Comment Type **T** *Comment Status* **D** *(B1) (L)*

After my checking, I found that the hexadecimal representation of codeword A assumes that bit<9> is the first transmitted bit in each RS symbol. However, bit<0> should be the first transmitted bit per 175.2.4.7 (Line 17, Page 294). In Annex 175A, it is also mentioned that the most significant bit of each hex symbol is transmitted first (Line 16, Page 757). So, the codeword examples should be consistent with what is defined.

SuggestedRemedy

Revise the hexadecimal representation of all codeword examples in Table 175A-3, Table 175A-4, Table 175A-5, Table 175A-6 such that bit<0> is transmitted first.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The hexadecimal representations of the the codewords A, B, C, and D are consistent with the examples in Annex 119A and 172A and should not be changed. There is, however, a typo in lines 50-53 on page 757 where the indexes of the codeword symbols are listed as <9:0> and should be <0:9>.

Change "cxA <(10i+9):(10i)> = c_A<i><9:0>" to "cxA <(10i+9):(10i)> = c_A<i><0:9>" on line 50.
Change "cxB <(10i+9):(10i)> = c_B<i><9:0>" to "cxB <(10i+9):(10i)> = c_B<i><0:9>" on line 51.
Change "cxC <(10i+9):(10i)> = c_A<i><9:0>" to "cxC <(10i+9):(10i)> = c_C<i><0:9>" on line 52.
Change "cxD <(10i+9):(10i)> = c_B<i><9:0>" to "cxD <(10i+9):(10i)> = c_D<i><0:9>" on line 53.

Note that changes to lines 52 an 53 also fix another typo on the right-hand side of the equantion where "A" should be "C" and "B" should be "D" as pointed out in comment #309.

Implement with editorial license.

Cl **176** *SC* **176.4.1** *P* **319** *L* **43** # 430

Nicholl, Gary — Cisco Systems

Comment Type **T** *Comment Status* **D** *(B1) (L)*

Figure 176-2. In the footnote, " inst: PMA or PMD or FEC or AUI" , inst cannot be "AUI" as "AUI" is not a sublayer.

SuggestedRemedy

Delete "AUI" from the footnote " inst: PMA or PMD or FEC or AUI" in Figure 176-2.

Make a similar change to Figure 176-12 and Figure 176-13.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176** *SC* **176.4.4.2.1** *P* **331** *L* **13** # 363

Opsasnick, Eugene — Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Update the definition of deskew_enable_mux to follow the guidelines adopted during D2.1 comment resolution.

SuggestedRemedy

Change the definition of variable deskew_enable_mux
From:
"Boolean variable that is set to true in the DESKEW state (see Figure 176–10) to start the deskew process. Otherwise it is set to false."
To:
"Boolean variable that is used to start the deskew process. Its value is set by the PMA multiplex synchronization state diagram (see Figure 176–10)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176** *SC* **176.4.4.2.1** *P* **331** *L* **24** # 364

Opsasnick, Eugene — Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Update the definition of restart_lock_mux to follow the guidelines adopted during D2.1 comment resolution.

SuggestedRemedy

Change the definition of variable restart_lock_mux
From:
"Boolean variable that is set in the state diagram shown in Figure 176–10. The variable is set to true when the lane synchronization process fails to lock, and is set to false upon entering the
LOSS_OF_ALIGNMENT state, causing the alignment marker lock process to restart on all input lanes."
To:
"Boolean variable that indicates the lane synchronization process has failed and is used to restart the alignment marker lock process on all input PCS lanes (see 176.4.2.2). Its value is set by the PMA multiplex synchronization state diagram (see Figure 176–10)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176** *SC* **176.7.1** *P* **338** *L* **36** # 431

Nicholl, Gary — Cisco Systems

Comment Type **T** *Comment Status* **D** *(B1) (L)*

Figure 176-13, footnote d. I assume that block error counters are only applicable to 200G/lane interfaces and therefore not to a 1.6AUI-16 ?

SuggestedRemedy

Update 176.7.4.7 to make it clear that block error detection and counters do not apply to 1.6TAUI-16, i.e. to 100Gb/s lanes ? Maybe this is already implicit in that the term "PAML" only refers to 200Gb/s lanes ? Perhaps adding a note to call out the exception for the 1.6TAUI-16 would be the simplest way to address this.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In 176.7.4.7, the block error counters are defined per PMAL, where a PMAL is a PMA lane running at 212.5G. Hence, these counters are not available for PMA lanes running at 106.25G as in the case of 1.6BASE-R 16:16 PMA. However, this is a subtle point, and could be made more explicit, to avoid confusion.

Change the first sentence in 176.7.4.7
From:
"The PRBS31 test pattern checker in each PMAL shall include block error detection and 17 related counters."
To:
"The PRBS31 test pattern checker in each PMAL (see 176.1.3) shall include block error detection and 17 related counters."

Cl **176** *SC* **176.11** *P* **344** *L* **13** # 429

Nicholl, Gary — Cisco Systems

Comment Type **T** *Comment Status* **D** *(B1) (L)*

There is a discrepency between the set of MDIO registors assigned for the block error counters in Table 176-9 (1.2600-1.3007) and the block of registers defined in 45.2.1.267 (1.2650-1.3057).

SuggestedRemedy

Assuming that 45.2.1.267 is correct, then update the MDIO registers for the block error counters in Table 176-9 to match those in 45.2.1.267.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license.

Cl **176C** *SC* **176C.3** *P* **792** *L* **50** # 411

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *(B1) (E)*

E1 is defined as "format" in 178B.7.3.2.
Also in 176D.3, 176D.8.7.

SuggestedRemedy

Change "for a Type E1 interface" to "with E1 format", with editorial license.
[CC 176C, 176D]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Editor's note: CC: 176C, 176D]

Cl **176C** *SC* **176C.4** *P* **794** *L* **3** # 334

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (E)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176C** *SC* **176C.6.3.1** *P* **796** *L* **41** # 57

Bruckman, Leon — Nvidia

Comment Type **TR** *Comment Status* **D** *(B1) (E)*

Type #1 is not defined in section 179.8.9, or any place else in the document.

SuggestedRemedy

Change: "(ILT) function for Type #1 interface as defined in 179.8.9"
To: "(ILT) function with E1 format as defined in 179.8.9"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176C** *SC* **176C.6.4.2** *P* **799** *L* **9** # 109

Kutscher, Noam Marvell

Comment Type **E** *Comment Status* **D** *(B1) (E)*

The name - "low loss test channel" was changed on the previous draft

SuggestedRemedy

rephrase "low loss test channel" to "Test L low loss test channel"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

[Editor's note: Changed page from 391 to 799]

Cl **176C** *SC* **176C.6.4.5.2** *P* **802** *L* **37** # 181

Dudek, Mike Marvell

Comment Type **T** *Comment Status* **D** *(B1) (E)*

Incorrect reference. The jitter values are not provided in Table 176C-7 and the correct reference (Table 176C-2) has different jitter values for the different packages.

SuggestedRemedy

Change "Table 176C-7" to "Table 176C-2 for package A"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176D** *SC* **176D.3** *P* **814** *L* **46** # 107

Kutscher, Noam Marvell

Comment Type **T** *Comment Status* **D** *(B1) (E)*

There are no values for the connector, host and module

SuggestedRemedy

specify what's the budjet of all as done on 802.3ck-2022 page 244

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The comment addresses Figure 176D-2, which illustrates the component of a 200 Gb/s per lane AUI-C2M link, without any loss numbers. The loss budget appears in a separate diagram, Figure 176D–6, and is defined as a reference (and real channels are not expected to be measurable).

The suggested remedy points to Figure 120G-2, which include loss values for the host, module, and connector, summing up to 16 dB (excluding package losses). The loss values in this figure are not specifications, and are described as "ILdd loss budget associated with the C2M application". Thus it mixes architectural illustration of components and informative values. In Annex 176D it was decided to avoid that mix and use separate figures. See the response to comment #115 against D1.1 in <https://www.ieee802.org/3/dj/comments/D1p1/8023dj_D1p1_comments_final_id.pdf#page=25>, the related comments #412 and #515, and the reference presentation <https://www.ieee802.org/3/dj/public/24_09/ran_3dj_03a_2409.pdf>.

Cl **176D** *SC* **176D.3** *P* **814** *L* **52** # 75

Brown, Matt Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

The word "components" is overloaded in the title since the diagram includes a host C2M component, and module C2M component, a channel, a connector, etc. The title used in FIgure 176C-2 would serve as good template.

SuggestedRemedy

Change the title of Figure 176D-2 to "200 Gb/s per lane AUI-C2C link diagram"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176D** *SC* **176D.4** *P* **815** *L* **13** # 335

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176D** *SC* **176D.6.2** *P* **817** *L* **26** # 76

Brown, Matt — Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

The last sentence refers 179B.4 which defines the mated test fixture (MTF). Like the previous sentences it would be good to relate the mated compliance board defined here to the MTF defined in 179B.4.

SuggestedRemedy

Change the sentence to "The mated compliance board characteristics are described in 179B.4 where the mated compliance board is equivalent to the mated test fixture (MTF)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change from
"The mated compliance board characteristics are described in 179B.4"
to
"The characteristics of the compliance boards (HCB and MCB) in mated state are described in 179B.4, where the mated compliance boards are equivalent to the mated test fixtures (MTF)".

Cl **176D** *SC* **176D.6.4** *P* **818** *L* **27** # 77

Brown, Matt — Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

In Table 176D-2, for the "transmitter output waveform, the cross-reference is unnecessarily repeated for each parameter associated with the transmitter output waveform and is inconsistent with the jitter parameters below. It would be helpful to highlight that all of these are defined in one subclause.

SuggestedRemedy

Reduce to one cross-reference in the cell and align with "Transmitter output waveform". Repeat for Table 176D-3, Table 179-7, and Table 178-6.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In tables outside of Annex 176D two separate subclauses are referenced (179.9.4.1.4 and 179.9.4.1.5), so the suggested remedy cannot be applied as is.
However, the two "absolute value of step size" sub-rows (min and max) can be merged to a single row with a range, which correspond to the text in the referenced 179.9.4.1.4.

Implement the suggested remedy in Table 176D-2 and Table 176D-3.
In Table 176D-2, Table 176D-3, Table 179-7, Table 178-6, and Table 176C-2, merge the two "absolute value of step size" sub-rows (min and max) a single row "range" row.

Implement with editorial license.

Cl **176D** *SC* **176D.8.3** *P* **826** *L* **24** # 405

Swenson, Norman — Nokia, Point2

Comment Type **ER** *Comment Status* **D** *(B1) (E)*

The text refers to the MDI connector of the test fixture, but for this annex, the test fixture does not have an MDI connector. The MDI is below the PMD as shown in Figure 176D-1.

SuggestedRemedy

Change
"the discontinuity of the MDI connector"
to
"the discontinuity of the AUI-C2M connector"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **177** *SC* **177.1.3** *P* **351** *L* **3** # 293

Maki, Jeffery — Juniper Networks

Comment Type **E** *Comment Status* **D** *(B1) (L)*

"outer RS-FEC" is used with outer as an adjective except many workers think outer is part of compound noun since Inner FEC is defined as a compound noun (term).

SuggestedRemedy

Clarify the use of outer. Is Outer FEC a defined compound noun (term) or not?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

We do not use the term "outer" in the draft when referring to the RS-FEC that is included in a PCS. In this sentence the word "outer" is not necessary and should be removed.

Change the first sentence of 177.1.3
From:
"The Inner FEC provides a second layer of FEC protection without decoding the data encoded by the outer RS-FEC in the PCS."
To:
"The Inner FEC provides a second layer of FEC protection without decoding the data encoded by the RS-FEC in the PCS."

Cl **177** *SC* **177.2.** *P* **353** *L* **41** # 210

Ran, Adee — Cisco Systems

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

The new NOTE added after Table 177-1 says "A value of OK for the SIGNAL_OK <...> does not guarantee that the stream provided to the Inner FEC sublayer through PMD:IS_UNITDATA_i.indication is a valid signal".

This sentence is incorrect: the PMD below the clause 177 inner FEC is one of 800GBASE-DR4-2, 800GBASE-FR4, or 800GBASE-LR4, all of which include the ILT function, and thus SIGNAL_OK=OK means that ILT has completed and "mission data" is being received (or about to be), so it is definitely a valid signal; arguably the quality of the signal is not guaranteed by the PMD, but that is never guaranteed and is not worth mentioning.

This sentence does not match the service interface definitions in 182.3 and 183.3

SuggestedRemedy

Change the NOTE to state that a value of OK means the PMD has completed the path startup procedure, and any other information that is worth menioning, with editorial license.

Alternatively, detete the NOTE.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delete the NOTE under Table 177-1.

Cl **177** *SC* **177.4.5** *P* **358** *L* **32** # 195

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *(B1) (L)*

"preceding equation": The equation defining p<7:0> should be numbered to enable referencing it

SuggestedRemedy

Format the paragraph of line 30 as "Equation" to make it a numbered equation, and refer to that equation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **177** *SC* **177.4.5** *P* **358** *L* **32** # 196

Ran, Adee — Cisco Systems

Comment Type **T** *Comment Status* **D** *(B1) (L)*

I assume that generation of the parity bits in the Hamming code is done using XOR operations across the participating bits as in most error correcting codes. The text in this subclause explains the calculation in detail and then states that the "•" denotes a matrix dot multiplication.
The problem is that matrix multiplication inherently involves addition; If readers don't already know what the "•" operator does, they might interpret it as matrix multiplication using "normal" addition, rather than XOR (addition in GF(2)). Especially since XOR is used in the second paragraph of this subclause without referring to it as addition.

SuggestedRemedy

Indicate that the addition operation inside the matrix multiplication is done modulo 2, or in GF(2), or is an XOR operation.

Implement with editorial license (since this may require text outside of the "where" paragraph to align with the previous use of XOR).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add a sentence " the addition operation inside the matrix multiplication is an XOR operation."
Implement with editorial license.

Cl **177** *SC* **177.5.5** *P* **364** *L* **18** # 393

Opsasnick, Eugene — Broadcom

Comment Type **T** *Comment Status* **D** *(B1) (L)*

The Inner FEC total_bits counter, correct_bits counter, and bin counters should be qualified by the Inner_FEC_sync_status variable being true. The Inner_FEC_corrected_cw_counter and INNER_FEC_uncorrected_cw_counter are already qualified by this variable being true.

SuggestedRemedy

Change the first sentence in the definition of Inner_FEC_total_bits_counter
From:
"A 64-bit counter that counts once for each bit processed by the Inner FEC decoder."
To:
"A 64-bit counter that counts once for each bit processed by the Inner FEC decoder when Inner_FEC_sync_status is true."

Change the first sentence in the definition of Inner_FEC_corrected_bits_counter
From:
"A 64-bit counter that counts once for each bit modified by the Inner FEC decoder."
To:
"A 64-bit counter that counts once for each bit modified by the Inner FEC decoder when Inner_FEC_sync_status is true."

Change the first sentence in the definition of Inner_FEC_codeword_error_bin_k
From:
"A set of four 32-bit counters where counter k counts once for each codeword received with exactly k bits corrected (flipped) when fas_lock is true (k = 0 to 3)."
To:
"A set of four 32-bit counters where k = 0 to 3. While Inner_FEC_sync_status is true, Inner_FEC_codeword_error_bin_k counts once for each codeword received with exactly k bits corrected (flipped)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **177** *SC* **177.5.5** *P* **364** *L* **26** # 367

Opsasnick, Eugene — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

The defintion of Inner_FEC_cw_counter states:
"A 48-bit counter that counts once for each FEC codeword received when alignment_status is true."

However, there is no definition of a variable called "alignment_status" in Clause 177. It looks like it should actually be referencing the variable Inner_FEC_sync_status.

SuggestedRemedy

Change the the definition of Inner_FEC_cw_counter
From:
"A 48-bit counter that counts once for each FEC codeword received when alignment_status is true."
To:
"A 48-bit counter that counts once for each FEC codeword received when Inner_FEC_sync_status is true."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178** *P* **383** *L* **37** # 151

Brown, Matt — Alphawave Semi

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

The SIGNAL_OK parameters is set based on rts_status managed by the RTS function.

SuggestedRemedy

Change "training_status of the inter-sublayer training function"
To "rts_status of the RTS function"
Make similar changes at:
Clause 179 page 416 line 26
Clause 180 page 460 line 6
Clause 181 page 501 line 2
Clause 182 page 531 line 14
Clause 183 page 563 line 8
Annex 176C page 794 line 3
Annex 176D page 815 line 13

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Editor's note: CC: 178, 179, 180, 181, 182, 183, 176C, 176D]

Cl **178** *SC* **178.4** *P* **383** *L* **37** # 328

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178.6** *P* **384** *L* **14** # 73

Brown, Matt — Alphawave Semi

Comment Type **T** *Comment Status* **D** *pause quanta (B1) (E)*

In Table 178-5, footnote b defines pause_quanta as "See 31B.2 for the definition of pause_quanta." This reference gives rather ambiguous definition. Instead, Table 169.4 and Table 174-4 point to 1.4.459 which give a more clear definition. Note also that sublayers defined in clauses 175 through 177 and 180 through 187 do not define pause_quanta locally and rather rely upon the reference to clause 169 and 174 for the definition.

SuggestedRemedy

In Table 178-5, Table 179-5, Table 176C-1, and Table 176D-1 do one of the following:
(1) Change "31B.2" to "1.4.459"
(2) Delete "See 31B.2 for the definition of pause_quanta." from the footnote.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "31B.2" to "1.4.459" in footnote b of Tables 178-5, 179-5, 176C-1, 176D-1.

[Editor's note: CC: 176C, 176D, 178, 179]

Cl **178** *SC* **178.7** *P* **384** *L* **24** # 74

Brown, Matt — Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

There is no FEC lane. This is likely text copied from a previous clause define 100GBASE-R PMDs.

SuggestedRemedy

Change "PCS or FEC" to "PCS", three times.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178.9.3.3** *P* **391** *L* **52** # 106

Kutscher, Noam Marvell

Comment Type **E** *Comment Status* **D** *RX ATOL (B1) (E)*

The name - "low loss test channel" was changed on the previous draft

SuggestedRemedy

rephrase "low loss test channel" to "Test L low loss test channel"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178.9.3.3** *P* **392** *L* **7** # 173

Dudek, Mike Marvell

Comment Type **T** *Comment Status* **D** *RX ATOL (B1) (E)*

It would be clearer to the reader if the note followed the description of how the transmit equalization is adjusted.

SuggestedRemedy

Reverse the order of the note paragraph and the final paragraph of 178.9.3.3. Making the note paragraph the last one in the section. Make equivalent changes in 179.9.5.2, 176C.6.4.2 and 176D.8.12

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178.14.4.5** *P* **409** *L* **27** # 3

Lusted, Kent Synopsys

Comment Type **TR** *Comment Status* **D** *(B1) (E)*

PICS Item CC2 for "AC-coupling" has a value/comment entry containing "100 kHz". However, the resolution to comment #389 against D2.1 set the value to 250 kHz in Table 178-11 and Table 176C-6. The PICS entry was not updated accordingly. (see: https://www.ieee802.org/3/dj/comments/D2p1/8023dj_D2p1_comments_final_id.pdf#page=102)

SuggestedRemedy

Change the value/comment entry for PICS item CC2 from:
"Between TP0d and TP5d, 3 dB cutoff frequency less than 100 kHz"
to:
"Between TP0d and TP5d, 3 dB cutoff frequency less than 250 kHz"

Also update the referenced Subcaluse to be 178.10.5

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178.14.4.5** *P* **409** *L* **29** # 357

Li, Tobey MediaTek

Comment Type **E** *Comment Status* **D** *(B1) (E)*

In item CC3, reference to AC coupling, 93.9.4, is outdated. Maximum AC coupling frequency does not match the value in referenced subclause, which was changed to 250 kHz.

SuggestedRemedy

Update referenced subclause to 178.10.5. Change maximum cutoff frequency to 250 kHz.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** *SC* **178B** *P* **879** *L* **18** # 345

Slavick, Jeff Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

In the initiali condition setting request response step b) specifies that coef_sts response will be not-updated. However the initial condition setting reponses process specified in 178B.7.8.2 states if ic_req is not supported (CHECK_REQ returns false) then the reponse will be coeff_not_supported. So the text in 178B.7.8.1 needs to be updated to align with that being a possible response. Follow up on unsatisifed comment #477 from D2.1.

SuggestedRemedy

add "or "coefficient not supported" " to the end of item b)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** *SC* **178B** *P* **893** *L* **54** # 353

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

MDIO table says the offset is 2800 in the footnote but 45.2.1.272 uses an offset of 4000.

SuggestedRemedy

Change 2800 to 4000 in the footnote a of Table 178B-6

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In Clause 45 the "lower AUI component" is named "bottom AUI component". To make the document self-consistent "bottom AUI component" should be renamed to "lower AUI component" in 45.2.1.272 (two instances).

Change 2800 to 4000 in the footnote a of Table 178B-6.
Change "bottom AUI component" in 45.2.1.272 to "lower AUI component" (two instances).

Implement with editorial license.

[Editor's note: CC: 45]

[Editor's note: Changed page/line from 0/0 to 893/54.]

Cl **178B** *SC* **178B.2** *P* **863** *L* **25** # 59

Bruckman, Leon — Nvidia

Comment Type **ER** *Comment Status* **D** *(B1) (CI)*

The text "RTS status indicates when an ISL is ready, or not," can be improved

SuggestedRemedy

Change: "RTS status indicates when an ISL is ready, or not,"
To: "RTS status indicates whether an ISL is ready, or not,"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** *SC* **178B.3** *P* **863** *L* **42** # 238

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

Comment Type **ER** *Comment Status* **D** *(B1) (CI)*

Any terminology being defined in the annex should be identified in 178B.3.

SuggestedRemedy

Change -
"For the purpose of this annex, the following definitions apply. Refer to 1.4 for terms not defined in this annex."
to
"For the purpose of this annex, the following definitions apply. Refer to 1.4 for terms not defined in 178B.3."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change:
"For the purpose of this annex, the following definitions apply. Refer to 1.4 for terms not defined in this annex."
To:
"For the purpose of this annex, the following definitions apply. Refer to 1.4 for terms not defined in this subclause"
Implement with editorial license

Cl **178B** *SC* **178B.3** *P* **863** *L* **53** # 352

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

Interface is pointing to Figure 178B-2 which is providing the adjacent interface and peer interfaces. Should this be pointing to Figure 178B-3.

SuggestedRemedy

Change Figure 178B-2 to Figure 178B-3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** *SC* **178B.3** *P* **864** *L* **2** # 421

Shrikhande, Kapil — Marvell Technologies

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

Sentence could use a comma

SuggestedRemedy

Insert a comma as shown in the sentence below after the word "between".
An ISL is either a pair of AUI components and the AUI channel between, or a pair of PMDs (in different PHYs) and the medium between.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** *SC* **178B.4** *P* **865** *L* **2** # 234

Mascitto, Marco — Nokia

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

It may be helpful to the reader to reiterate what is stated about PSU in 178B.2.

SuggestedRemedy

Add: PSU is not intrinsically a function; rather, it is an externally observable behavior resulting from the RTS and ILT functions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** *SC* **178B.4** *P* **865** *L* **10** # 235

Mascitto, Marco — Nokia

Comment Type **T** *Comment Status* **D** *(B1) (CI)*

PSU applies to any Physical Layer implementation that includes at least one ISL with data rate of 200Gb/s (or higher) per lane. Furthermore, PSU applies to any Physical Layer implementation that includes at least one ISL with data rate of 200Gb/s (or higher) per lane (e.g., 1.6TBASE-DR8) and any number of ISLs for which ILT is not defined (e.g., 1.6TAUI-16 C2M).

PSU must not depend on an ISL's support of the ILT function. PSU must apply to all ISLs in the path, whether they will be trained by the ILT function or not. PSU must only depend on the ISL's support of the RTS function. Decoupling the PSU from the training simplifies the architecture and avoids the need to introduce flows in the state diagrams to allow for ISLs for which ILT is not defined by this annex.

The ILT function defines training of ISLs that make use of 200Gb/s lanes.

The RTS function must define how an ISL signals its readiness end-to-end along the path.

SuggestedRemedy

For all paths that require PSU, allow all ISLs in that path to support RTS, regardless of whether they support ILT or not. Delete "and the ILT function (see 178B.7)" from this bullet.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
ILT must be supported for PSU. The link training part of ILT may be disabled, but the function is still active as reflected in state diagram 178B-10.

Cl **178B** *SC* **178B.4** *P* **865** *L* **15** # 320

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

local_rts is just status of the transmit path being in a state for sending data.

SuggestedRemedy

Change in the first bullet after PSU is the result...
"ready to send and receive normal data (it reached the ISL_READY state in Figure 178B–10) and propagates"

To: "ready to send data and propagates"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.4** P**865** L**19** # 422

Shrikhande, Kapil — Marvell Technologies

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

remote_rts "propagates similarly and independently from RS to RS in both directions". But similarly and independently to what ?

SuggestedRemedy

Assuming the sentence is meant to say remote_rts propagates similarly to and independent from local_rts, change the sentence to state that explicitly.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change: "remote_rts indicates that the peer interface is ready to send and receive normal data and propagates similarly and independently from RS to RS in both directions."
To: "remote_rts indicates that the peer interface is ready to send and receive normal data. It propagates from RS to RS in both directions independently of each other."

Cl **178B** SC **178B.4** P**865** L**21** # 60

Bruckman, Leon — Nvidia

Comment Type **ER** *Comment Status* **D** *(B1) (CI)*

The words "in both directions" are confusing, the text already stated that local_rts is being transmitted and remote_rts is being received.

SuggestedRemedy

Delete: "in both directions"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** SC **178B.6** P**867** L**28** # 415

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

facilitates the transfer

SuggestedRemedy

facilitates the indication

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.6** P**867** L**30** # 423

Shrikhande, Kapil — Marvell Technologies

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

Missing cross-reference

SuggestedRemedy

Add cross-reference to Figure 178B-9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Editor's note: changed subclause from 178B.4 to 178B.6].

Cl **178B** SC **178B.6** P**867** L**42** # 319

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

Not all retimers will swap clocks.

SuggestedRemedy

Add the following after "retimer"
"that uses the recovered clock in DATA mode"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.6** P**867** L**45** # 321

Slavick, Jeff — Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

Needs to be "of local_status" or "of the local_status variable". Same with rts_status (which is already the rts_status variable).

SuggestedRemedy

Insert the word "variable" after local_rts.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remeday for local_rts and rts_status where appropriate.

Cl **178B** *SC* **178B.7** *P* **868** *L* **6** # 416

Ran, Adee
Cisco Systems

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

passes the readiness of the transmitter to send data

SuggestedRemedy

indicates the readiness of the transmitter to send data

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** *SC* **178B.7** *P* **868** *L* **13** # 424

Shrikhande, Kapil
Marvell Technologies

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

Missing cross-reference

SuggestedRemedy

Add cross-reference to 178B.7.3.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** *SC* **178B.7** *P* **868** *L* **23** # 20

Brown, Matt
Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

When referring to the transmitter on the peer interface in the context of ILT various terms are used: "peer transmitter", "peer interface transmitter", "remote transmit". Mostly commonly in Annex 178B the term "peer interface transmitter" is used.

SuggestedRemedy

Change instances of "peer transmitter" and "remote transmit" to "peer interface transmitter".
Annex 178B: page 886 line 13, page 868 line 23, page 868 line 54
Clause 178: page 421 line 12
Clause 180: page 464 line 35
Clause 181: page 504 line 27
Clause 182: page 535 line 48
Clause 183: page 566 line 37

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Page 886 line 13 already names it "peer interface transmitter".
In 178B change: "peer transmitter" to "peer interface transmitter" at page 868 line 23 and at page 868 line 54.
[Editor's note: CC 178, 180, 181, 182, 183]

Cl **178B** *SC* **178B.7.2** *P* **868** *L* **53** # 417

Ran, Adee
Cisco Systems

Comment Type **T** *Comment Status* **D** *(B1) (CI)*

The receiver is not strictly required to "configure its peer transmitter to optimize performance". Also, this is not the only purpose of "the frame format" - it is used for other things such as handshaking, changing from PAM2 to PAM4, and indicating readiness, which are not mentioned here.

SuggestedRemedy

Change "the frame format" to "the training protocol".
Change "is used" to "may be used".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** *SC* **178B.7.2** *P* **869** *L* **1** # 322

Slavick, Jeff
Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

Which format is used is specified by the user of the protocol.

SuggestedRemedy

Change:
The required format is defined by the clause or annex that defines the interface.

To:
The clause or annex that defines this interfaces specifies which format is used.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.7.3.2** P**870** L**20** # 323

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

Which format is used is specified by the user of the protocol.

SuggestedRemedy

Change:
The training frame format is specified by the clause or annex that defines the interface.

To:
Which training frame format is used is specified by the clause or annex that defines the interface.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.7.3.2** P**870** L**40** # 324

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

NOTEs are not normative, but being in PAM4 mode is required.

SuggestedRemedy

Remove the words "NOTE" and make the contents of the NOTE be the last paragraph of the subclause.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.7.5** P**876** L**42** # 182

Dudek, Mike — Marvell

Comment Type **ER** *Comment Status* **D** *(B1) (CI)*

The order of the Coefficient select echo entries in table 178B-4 was changed in D2.2 and no longer matches the order for the coefficient control in Table 178B-2, the natural order of the taps, or what was used for 100G in Clause 162.

SuggestedRemedy

Revert the order to match the control field.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.7.5** P**876** L**42** # 418

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

Three values are marked as undefined, but other fields use "reserved".

SuggestedRemedy

Change the three "undefined" to "reserved".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.7.9** P**881** L**25** # 339

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

The local_mc_mode and local_tp_mode are the values sent in the status bits from the local interface in response to the received request bits. That is not clearly specified.

SuggestedRemedy

Change from:
When a change to the modulation and precoding request bits or the training pattern request bits is detected, the transmitted training pattern (see 178B.7.3.3) is chosen accordingly. To confirm that the change to the format of the training pattern was completed, the local_mc_mode variable is set to the value of the modulation and precoding request bits and the local_tp_mode variable to the value of the training pattern request bits. local_mc_mode and local_tp_mode are encoded in status fields (see 178B.7.5.2 and 178B.7.5.3).

To:
When a change to the received modulation and precoding request bits or the training pattern request bits is detected, the transmitted training pattern (see 178B.7.3.3) is set accordingly. To confirm that the change to the format of the training pattern was completed, the local_mc_mode variable is set to the value of the received modulation and precoding request bits and the local_tp_mode variable to the value of the received training pattern request bits. local_mc_mode and local_tp_mode are encoded in status fields (see 178B.7.5.2 and 178B.7.5.3).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** SC **178B.8.2.1** P **882** L **52** # 325

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

local_rts is just status of the transmit path being in a state for sending data.

SuggestedRemedy

Remove "and receive" from the local_rts definition.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** SC **178B.8.2.1** P **883** L **2** # 425

Shrikhande, Kapil — Marvell Technologies

Comment Type **E** *Comment Status* **D** *(B1) (CI)*

mr_restart uses "system management" , whereas mr_training enable (few lines below) uses just "management". Both system mangement and management are intended to be the same ?

SuggestedRemedy

replace "system management" by "management"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** SC **178B.8.2.1** P **883** L **5** # 15

Brown, Matt — Alphawave Semi

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

The statement is somewhat misleading as it might apply that beyond this annex it is defined. "The definition of unrecoverable fault is beyond the scope of this annex."

SuggestedRemedy

Change "annex" to "standard".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** SC **178B.8.2.1** P **883** L **16** # 426

Shrikhande, Kapil — Marvell Technologies

Comment Type **T** *Comment Status* **D** *(B1) (CI)*

Shouldn't "mr_training" be "mr_training_enable"

SuggestedRemedy

replace "mr_training" by "mr_training_enable"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** SC **178B.8.3** P **884** L **51** # 337

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

What about the coeff update FSM it's not mentioned until the end of the section. Also the n physial lanes is a leftover from but we don't talk about physical lanes in 178B

SuggestedRemedy

Remove the last paragraph and change first paragraph from:
An interface implements one instance of each of the Training control and the Training frame lock state diagrams, and their associated variables, functions, counters and timers defined in this subclause, independently for each of the n physical lanes.

To:
An interface using E1 format implements one instance of each of the Training control, the Training frame lock and the Coefficient update state diagrams, and their associated variables, functions, counters and timers defined in this subclause, independently for each lane.

An interface using O1 format implements one instance of each of the Training control and the Training frame lock state diagrams, and their associated variables, functions, counters and timers defined in this subclause, independently for each lane.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** *SC* **178B.8.3.1** *P* **886** *L* **22** # 341

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

local_tf_lock is just one of the conditions for having the status field frame lock bit be set to a 1.

SuggestedRemedy

Remove the last sentence from the definition of local_tf_lock.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** *SC* **178B.8.3.1** *P* **887** *L* **17** # 342

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

training is true when runing ILT with training frames, but if you run with local pattern it's false.

SuggestedRemedy

Change "is in progress"
To "is in progress using training frames (see 178B.7.3)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **178B** *SC* **178B.8.3.3** *P* **888** *L* **6** # 348

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

The description of how stop timer works should be up where we actually refer to 14.2.3.2.

SuggestedRemedy

Remove "All timers operate as described in 14.2.3.2 with one addition. A timer is reset and stops counting upon entering a state where “stop x_timer” is stated." from 178B.8.3.3 and add "A timer is reset and stops counting upon entering a state where “stop x_timer” is stated." to the end of the first paragraph of 178B.8.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.
[Editor's note: changed page/line from 882/25 to 888/6].

Cl **178B** *SC* **178B.8.3.3** *P* **888** *L* **14** # 427

Shrikhande, Kapil — Marvell Technologies

Comment Type **T** *Comment Status* **D** *(B1) (CI)*

max_wait_time_done should be max_wait_timer_done

SuggestedRemedy

Change max_wait_time_done to max_wait_timer_done.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** *SC* **178B.8.3.5** *P* **888** *L* **38** # 343

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (CI)*

The training control function is for the ILT function not the RTS function.

SuggestedRemedy

change RTS to ILT.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179** *SC* **179.4** *P* **416** *L* **27** # 329

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179** *SC* **179.8.2** *P* **419** *L* **39** # 199

Ran, Adee
Cisco Systems

Comment Type **E** *Comment Status* **D** *psu wording other (B1) (CI)*

"PMD control function" is a remnant from older PMD clauses.
Also in 179.8.5, 179.8.7.

SuggestedRemedy

Change "PMD control function" to "ILT function".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy in the three places noted.

Cl **179** *SC* **179.9.4** *P* **423** *L* **5** # 78

Brown, Matt
Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

The parameter title "transmitter waveform" is inconsistent with the referenced subclause.
Note also that 176D and 176C refer to "transmitter output waveform".

SuggestedRemedy

Change "transmitter waveform" to "transmitter output waveform in Table 179-7 and Table 178-6.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The title of 179.9.4.1, which is the parent of referenced subclauses in both Table 179-7 and Table 178-6, is indeed "Transmitter output waveform", not "transmitter waveform".
In the similar 176D.8.7, the title is "Transmit equalization"
Table 176C-2, the corresponding parameter is "Output waveform".
These titles and references should be corrected and unified.

The content of 179.9.4.1 and its descendants specifies the transmitter equalization capability. The title "Transmitter output equalization" seems more appropriate.

Change the titles of 179.9.4.1 and 176D.8.7 to "Transmitter output equalization".
Change "transmitter waveform" to "Transmitter output equalization" in Table 179-7 and Table 178-6, Table 176D–2, and Table 176D–3.
Change "Output waveform" to "Transmitter output equalization" in In Table 176C-2.
Change "Transmitter output waveform" to "Transmitter output equalization" in Table 176D–2 and Table 176D–3.

Implement with editorial license.

Cl **179** *SC* **179.9.5.4.1** *P* **438** *L* **11** # 22

Brown, Matt
Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

Editor's note has expired.

SuggestedRemedy

Delete editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179** *SC* **179.9.5.6** *P* **439** *L* **40** # 23

Brown, Matt
Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

Editor's note has expired.

SuggestedRemedy

Delete editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179** *SC* **179.11.6.1** *P* **445** *L* **2** # 205

Ran, Adee
Cisco Systems

Comment Type **ER** *Comment Status* **D** *(B1) Loss budget (E)*

The NOTE says that the sum <…> including the reference mated test fixtures is equal to the recommended maximum host channel IL in 179A.4. This is incorrect; the host channel as defined in 179A.4 does not include the HCB, so the sum should only include the MCB, not the mated test fixtures.

SuggestedRemedy

Change the note to read:
NOTE—For each host class, the sum of the differential insertion loss (ILdd) at 53.125 GHz of the partial host channel (excluding the device termination) and the reference cable assembly test fixture (see Equation (179B–2) and Figure 179A–1) is equal to the recommended maximum host channel insertion loss in Table 179A–1 for that host class.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The suggested remedy is to replace "reference mated test fixtures" with "reference cable assembly test fixture" and update the references.
Implement the suggested remedy with editorial license.

Cl **179A** *SC* **179A.2** *P* **898** *L* **23** # 398

Swenson, Norman Nokia, Point2

Comment Type **ER** *Comment Status* **D** *(B1) (E)*

It is a little confusing that the transmitter for Clause 179 PMDs points to characterisitcs for Clause 178 PMDs, unless the point is that the same transmitter characteristics are intended for both PMDs.

SuggestedRemedy

Add a sentence to the beginning of Clause 179A.2:
"The transmitter characteristics for Clause 179 PMDs are intended to match those for Clause 178 PMDs."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The referenced subclause provides explicit transmitter specifications. The more generic sentence proposed may cause more confustion in the future for readers.

Cl **179A** *SC* **179A.3** *P* **898** *L* **29** # 399

Swenson, Norman Nokia, Point2

Comment Type **ER** *Comment Status* **D** *(B1) (E)*

It is a little confusing that the receiver for Clause 179 PMDs points to characterisitcs for Clause 178 PMDs, unless the point is that the same receiver characteristics are intended for both PMDs.

SuggestedRemedy

Add a sentence to the beginning of Clause 179A.3:
"The receiver characteristics for Clause 179 PMDs are intended to match those for Clause 178 PMDs."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The referenced subclause provides explicit receiver specifications. The more generic sentence proposed may cause more confustion in the future for readers.

Cl **179A** *SC* **179A.4** *P* **898** *L* **42** # 400

Swenson, Norman Nokia, Point2

Comment Type **ER** *Comment Status* **D** *(B1) (E)*

The singular "loss" does not gramatically agree with the verb "are" in the sentence.

SuggestedRemedy

Change
"The recommended maximum differential insertion loss (TP0d-to-TP2) or (TP3-to-TP5d) are consistent with the host channels and the reference TP2 or TP3 test fixture specified in 179B.2.1."
to
The recommended maximum differential insertion loss (TP0d-to-TP2) or (TP3-to-TP5d) is consistent with the host channels and the reference TP2 or TP3 test fixture specified in 179B.2.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179B** *SC* **179B.1** *P* **904** *L* **13** # 408

Swenson, Norman — Nokia, Point2

Comment Type **E** *Comment Status* **D** *(B1) (E)*

This is the normative clause that defines the Cable test fixtures. The test fixtures assume an MDI connector, a PCB board, and a coaxial connector enabling connection to test equipment, but that is not stated anywhere.

SuggestedRemedy

Replace the second paragraph of 179B.1 with the following:
"Cable assembly measurements for the cable assembly types (see Annex 179D) are made between TP1 and TP4 with cable assembly test fixtures at both ends. Each such test fixture has an MDI receptacle compatible with the MDI plug at the end of the cable assembly, a coaxial connector for each lane suitable for connection to test equipment, and a PCB connecting the lanes from the MDI receptacle to the coaxial connectors. The test fixture reference insertion loss is specified in 179B.3. The TP2 or TP3 test fixture and the cable assembly test fixture are specified in a mated state to enable connections to measurement equipment. The reference insertion loss of the mated test fixtures is 9.75 dB at 53.125 GHz using Equation (179B–5)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The commenter points out that the draft never explicitly define the structures in an MCB test fixture. The proposed additinal text may be better suited as an addition to 179B.3, as follows:

"The cable assembly test fixture (also known as Module Compliance Board) is required for measuring the cable assembly specifiations in 179.11 and the module specifications in Annex 176D at TP1 and TP4. The test fixture has an MDI connector, and provides a high-speed electrical path between the MDI connector and the coaxial connector that defines the TP1 or TP4 test point. The TP1 and TP4 test points are illustrated in Figure 179-2."

Cl **179B** *SC* **179B.1** *P* **904** *L* **13** # 407

Swenson, Norman — Nokia, Point2

Comment Type **E** *Comment Status* **D** *(B1) (E)*

This is the normative clause that defines the TP2 or TP3 test fixtures. The test fixtures assume an MDI connector, a PCB board, and a coaxial connector enabling connection to test equipment, but that is not stated anywhere.

SuggestedRemedy

Replace the first paragraph of 179B.1 with the following:
"Transmitter and receiver measurements at TP2 or TP3 for the 200GBASE-CR1, 400GBASE-CR2, 800GBASE-CR4, and 1.6TBASE-CR8 hosts (see Annex 179D) and at TP1a or TP4a (see Figure 176D–4) for the 200GAUI-1, 400GAUI-2, 800GAUI-4, and 1.6TAUI-8 C2M hosts (see Annex 176D), are made utilizing test fixtures. Each such test fixture has an edge connector plug that is compatible with the MDI receptacle on the host board, a coaxial connector for each lane suitable for connection to test equipment, and a PCB connecting the lanes from the edge connector plug to the coaxial connectors. The test fixture reference insertion loss is specified in 179B.2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The commenter points out that the draft never explicitly defines the structures in an HCB test fixture. The proposed additional text may be better suited as an addition to 179B.2, as follows:

"The TP2 or TP3 test fixture (also known as Host Compliance Board) is required for measuring the transmitter and receiver specifiations at TP2 and TP3. The test fixture has an edge connector interface that is compatible with the appropriate MDI connector on the Host board, and provides a high-speed electrical path between the MDI connector and the coaxial connector that defines the TP2 or TP3 test point. The TP2 and TP3 test points are illustrated in Figure 179A-1."

Cl **179B** *SC* **179B.1** *P* **904** *L* **14** # 140

Healey, Adam — Broadcom, Inc.

Comment Type **E** *Comment Status* **D** *(B1) (E)*

The subclause begins "Transmitter and receiver measurements at TP2 or TP3 for the 200GBASE-CR1, 400GBASE-CR2, 800GBASE-CR4, and 1.6TBASE-CR8 hosts (see Annex 179D)…". Annex 179D does not define transmitter and receiver measurements at TP2 or TP3 for hosts so the reference does not seem to be correct.

SuggestedRemedy

Change the reference to 179.8.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179B** *SC* **179B.1** *P* **904** *L* **23** # 409

Swenson, Norman — Nokia, Point2

Comment Type **E** *Comment Status* **D** *(B1) (E)*

The equivalence of the Module Compliance Board and the Cable Assembly Test Fixture can be made more clear.

SuggestedRemedy

Replace the second third of 179B.1 with the following:
"Module measurements for modules specified in Annex 176D are made at module compliance points TP1 and TP4 (see Figure 176D–5) with test fixtures known as Module Compliance Boards that are equivalent to Cable Assembly Test Fixtures. Reference insertion loss for each such test fixture is specified in 179B.3."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The commenter indicated an error in the suggested remedy as follows:
In the suggested remedy “Replace the second third of 179B.1…” should have been “Replace the third paragraph of 179B.1…”

However, in 179B.1 the tem "cable assembly test fixture" is not yet introduced. The equivalency is clear when the term is introduced in 179B.3. The proposed resolution for Comment #408 should satisfy the points of clarity.

Cl **179B** *SC* **179B.2.1** *P* **904** *L* **45** # 394

Swenson, Norman — Nokia, Point2

Comment Type **ER** *Comment Status* **D** *(B1) (E)*

The subscript on Ildd is inconsistent with that used on line 49.

SuggestedRemedy

Change the subscript "tref" to "tfref".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179B** *SC* **179B.2.1** *P* **905** *L* **3** # 25

Brown, Matt — Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

Editor's note has expired.

SuggestedRemedy

Delete editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179B** *SC* **179B.3.1** *P* **905** *L* **26** # 395

Swenson, Norman — Nokia, Point2

Comment Type **ER** *Comment Status* **D** *(B1) (E)*

The subscript on Ildd is inconsistent with that used on line 29.

SuggestedRemedy

Change the subscript "catref" to "catfref".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179B** *SC* **179B.3.1** *P* **905** *L* **29** # 305

Noujeim, Leesa — Google

Comment Type **TR** *Comment Status* **D** *(B1) (E)*

Cable assembly test fixture should not refer to PCB since the definition now includes everything between the reference plane of the coax connector and the mating point of the MDI connector

SuggestedRemedy

Remove "PCB" in the definition of Ildd_catfref(f)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179B** *SC* **179B.4.2** *P* **906** *L* **46** # 26

Brown, Matt — Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (E)*

Editor's note has expired.

SuggestedRemedy

Delete editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **179B** *SC* **179B.4.3** *P* **908** *L* **6** # 13

Brown, Matt — Alphawave Semi

Comment Type **TR** *Comment Status* **D** *(B1) (E)*

In Draft 2.1, the reference impedence for mated test fixture measurements was changed to 92.5 Ohms to align with a similar change to the PMD and channel specficaition in Clause 179 and elsewhere. However, a similar change was not applied to the test fixture specificaitions in 179B.2 and 178B.3.

SuggestedRemedy

Add the following text to 179B.1 and remove the similar text in 178B.4.3.
"The reference impedance for differential specifications is 92.5 Ω. The reference impedance for common-mode specifications is 23.125 Ω. Renormalization of S-parameter data may be required, see 178A.1.3."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.3** *P* **460** *L* **6** # 330

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.5.2** *P* **462** *L* **49** # 206

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *psu wording other (B1) (CI)*

"in the ISL training function (see 178B.7 and Figure 178B–6)"
178B.7 is titled "ILT function".

Also in 181.5.2.

SuggestedRemedy

Change to "in the ILT function (see 178B.7 and Figure 178B–6)", in 180.5.2 and 181.5.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.5.12** *P* **464** *L* **33** # 410

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *ilt format (B1) (CI)*

O1 is defined as "format" in 178B.7.3.2.
Also in 181.5.12, 182.5.12, 183.5.12.

SuggestedRemedy

Change "for a Type O1 interface" to "with O1 format", with editorial license.
[CC 180, 181, 182, 183]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license noting that some other comments might overtake this response.

Cl **180** *SC* **180.9.6** *P* **475** *L* **29** # 162

Johnson, John — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (O)*

It's unnecessary to define how the reference receiver may be implemented, since that is already done in 180.9.2.

SuggestedRemedy

Replace:
"The reference receiver and reference equalizer may be implemented in software or may be part of an oscilloscope."
with:
"The reference equalizer may be implemented in software or may be part of an oscilloscope."
with editorial license.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.6.1** *P* **476** *L* **10** # 161

Johnson, John — Broadcom

Comment Type **TR** *Comment Status* **D** *TDECQ (B1) (O)*

The diagram in Figure 180-9 shows a single block for "Reference equalizer and analysis" which are unrelated functions. The reference equalizer is a separate entity defined in 180.9.6.3. Although the reference equalizer is iteratively optimized in the TDECQ analysis, it should be treated as separate from it.

SuggestedRemedy

Break the "Reference equalizer and analysis" block in Figure 180-9 into two separate blocks, one for "Reference equalizer" and one for "Analysis".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.6.4** *P* **478** *L* **53** # 164

Johnson, John — Broadcom

Comment Type **TR** *Comment Status* **D** *TDECQ (B1) (O)*

Now that the Reference equalizer is not just FFE, update the text to replace references to "FFE equalizer" with "Reference equalizer".

SuggestedRemedy

Replace:
"The TDECQ reference point where OMA_TDECQ is referenced to and noise is added is at the input of the FFE equalizer."
with:
"The TDECQ reference point where OMA_TDECQ is referenced to and noise is added is at the input of the Reference equalizer."
with editorial license.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.6.4** *P* **479** *L* **3** # 294

Maki, Jeffery — Juniper Networks

Comment Type **E** *Comment Status* **D** *editor's note (B1) (O)*

Editor's note: "outer FEC" is used with outer as an adjective except many workers think outer is part of compound noun since Inner FEC is defined as a compound noun (term).

SuggestedRemedy

Clarify the use of outer. Is Outer FEC a defined compound noun (term) or not?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The editor's note on page 479 line 3 does not include the term "outer FEC". The word "outer" here refers to OMA_outer, which is the optical modulation amplitude of the outer eye for a PAM4 signal.
As noted with the editor's note, the editor's note will be deleted in Draft 2.3 regardless.

Cl **180** *SC* **180.9.6.4** *P* **479** *L* **3** # 24

Brown, Matt — Alphawave Semi

Comment Type **E** *Comment Status* **D** *editor's note (B1) (O)*

Editor's note has expired.

SuggestedRemedy

Delete editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.6.4** *P* **480** *L* **23** # 212

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *TDECQ (O) (B1)*

SER is an overloaded acronym; in most contexts it is used as FEC symbol error ratio, but for TDECQ it is defined (earlier in this subclause) as "PAM4 symbol error ratio".
Additional uses of this acronym should also use "PAM4".
A maintenance request to apply a similar change in Clause 121 is planned.

SuggestedRemedy

Change "the partial SER" to "the partial PAM4 SER".
Change "the three partial SERs is the SER" to "the three partial PAM4 SER values is the PAM4 SER".
Change "target SER" to "target PAM4 SER".
Change "consistent with the BER and target symbol error ratio for Gray coded PAM4" to "Consistent with the target PAM4 SER and Gray coded PAM4".

Apply in all instances of the above.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license.

Cl **180** *SC* **180.9.6.4** *P* **482** *L* **3** # 163

Johnson, John — Broadcom

Comment Type **TR** *Comment Status* **D** *TDECQ (B1) (O)*

The definition of Q_t is incomplete. It isn't stated in the text that it is the Q-factor of the sub-eyes at the target SER, and there is an undefined reference to "the BER" that isn't needed. 180.9.7 contains a more complete definition and a formula for Q_t that can be referenced.

SuggestedRemedy

Replace:
"Q_t is 3.428, consistent with the BER and target symbol error ratio for Gray coded PAM4."
with:
"Qt is 3.428, consistent with the target symbol error ratio for Grey coded PAM4, and can be calculated according to Equation (180–26)."
with editorial license.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.7.1** *P* **483** *L* **23** # 84

Brown, Matt — Alphawave Semi

Comment Type **TR** *Comment Status* **D** *CER TDECQ (B1) (CO)*

In equation 180-15, for the bottom subequation, Ln should be 3, not 0.

SuggestedRemedy

Change "0" to "3".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.7.1** *P* **483** *L* **24** # 308

Mi, Guangcan — Huawei Technologies Co., Ltd.

Comment Type **T** *Comment Status* **D** *CER TDECQ (B1) (CO)*

The last condition in equation 180-15 should be Ln = 3

SuggestedRemedy

Change Ln = 0 to Ln = 3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.7.1** *P* **483** *L* **42** # 12

Brown, Matt — Alphawave Semi

Comment Type **T** *Comment Status* **D** *CER TDECQ (B1) (CO)*

The acronym PMF is never defined. Perhaps this is intended to be "probability mass function"?

SuggestedRemedy

Change "PMF" to "probability mass function (PMF)".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.7.1** *P* **483** *L* **46** # 313

Mi, Guangcan — Huawei Technologies Co., Ltd.

Comment Type **E** *Comment Status* **D** *CER TDECQ (B1) (CO)*

In Equation (180-18), for e = 0, P_{FEC,n}σ should be P_{FEC,n}(σ).

SuggestedRemedy

Change P_{FEC,n}σ to P_{FEC,n}(σ).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.7.1** *P* **484** *L* **22** # 83

Brown, Matt — Alphawave Semi

Comment Type **TR** *Comment Status* **D** *CER TDECQ (B1) (CO)*

Based on the calculation of target CER in equation 180-22 the assumption is the target SER is random (independent and identically distributed). This assumption should be noted in the discussion preceding equation 180-22.

SuggestedRemedy

On page 484 line 23 append the following sentence to the paragraph: "The target PAM4 symbol error ratio assumes that the errors independent and identically distributed."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to "The target PAM4 symbol error ratio assumes that the errors are independent and identically distributed."

Cl **180** *SC* **180.9.7.1** *P* **484** *L* **26** # 314

Mi, Guangcan — Huawei Technologies Co., Ltd.

Comment Type **T** *Comment Status* **D** *CER TDECQ (B1) (CO)*

When assuming i FEC symbol errors in a codeword, the probability should be nchoosek(d,i)p^i(1-p)^{d-i}.

SuggestedRemedy

Change (1-p)^{k-i} to (1-p)^{d-i} in Equation (180-22).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.7.1** *P* **484** *L* **26** # 311

Mi, Guangcan — Huawei Technologies Co., Ltd.

Comment Type **T** *Comment Status* **D** *CER TDECQ (B1) (CO)*

An FEC symbol consists of m PAM4 symbols. The probability of an FEC symbol error p should be 1-(1-SER_target)^m instead of SER^m_target.

SuggestedRemedy

Change SER^m_targe to 1-(1-SER_target)^m.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.9** *P* **485** *L* **14** # 85

Brown, Matt — Alphawave Semi

Comment Type **E** *Comment Status* **D** *Tx FRx (B1) (O)*

Reference to "n symbol errors" should be "n test symbol errors".

SuggestedRemedy

Change "n symbol errors" to "n test symbol errors"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.15** *P* **488** *L* **20** # 185

Dudek, Mike — Marvell

Comment Type **E** *Comment Status* **D** *est pattern reference (B1) (O)*

The test pattern table 180-13 is a list of all the possible test patterns. The correct reference is table 180-14 which lists which test pattern should be used for each test including output jitter.

SuggestedRemedy

Change the reference from 180-13 to 180-14.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180** *SC* **180.9.15** *P* **488** *L* **21** # 17

Brown, Matt — Alphawave Semi

Comment Type **TR** *Comment Status* **D** *jitter (B1) (O)*

The first expection is a bit misleading. "The equalizer setting is fixed for all of the jitter parameters." No transmitter equalizer settings are defined for the PMDs defined in clauses 180 through 183. Perhaps it would be better to just point that out.

SuggestedRemedy

Replace "The equalizer setting is fixed for all of the jitter parameters."
With "No equalizer settings are defined for the optical transmitter."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy in 180.9.15, 181.9.15, 182.9.15 andd 183.9.15.

Cl **180A** *SC* **180A.3.2** *P* **933** *L* **36** # 168

Dudek, Mike — Marvell

Comment Type **T** *Comment Status* **D** *(B1) (O)*

The angled end facet is not an "exception" so it shouldn't be part of the "but"

SuggestedRemedy

Delete "an angled end face" i.e Change from "depicted in Figure 180A–1, but with an angled end facet, 16 fibers, an offset keyway, and different pin diameters and locations." to "depicted in Figure 180A–1, but with 16 fibers, an offset keyway, and different pin diameters and locations."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **180A** *SC* **180A.3.2** *P* **936** *L* **1** # 169

Dudek, Mike — Marvell

Comment Type **T** *Comment Status* **D** *(B1) (O)*

These are single 8-lane PMDs

SuggestedRemedy

Change "4-lane" to 8-lane"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **181** *SC* **181.3** *P* **501** *L* **2** # 331

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **181** *SC* **181.9.15** *P* **517** *L* **32** # 186

Dudek, Mike — Marvell

Comment Type **E** *Comment Status* **D** *est pattern reference (B1) (O)*

Table 181-13 is Transmitter compliance channel specifications. The correct reference is table 181-12 which lists which test pattern should be used for each test including output jitter.

SuggestedRemedy

Change the reference from 181-13 to 181-12.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **181** *SC* **181.9.16** *P* **518** *L* **1** # 215

Ran, Adee — Cisco Systems

Comment Type **TR** *Comment Status* **D** *(B1) (CK)*

"with parameters provided in Table 180–19"
Table 180-19 is specific to clause 180 - it includes the PMD types defined therein and the value of p for each one. Clause 181 has one PMD type and it is different, apparently only with p=4.

The same reference appears also in 181.9.17 (same clause).

SuggestedRemedy

Add a specific table for clause 181 instead of referring to Table 180-19.

Make any necessary resulting changes in the text, with editorial license.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
CL181 shares the same set of error ratio parameters as CL180. No new information is provided by adding a new table in Clause 180. But it should be clarified in CL 181 that only p = 4 is used in the clause.
Change: "The error mask Hmax(k) to be used in the method of 174A.9.5 is provided in Table 180–20."
To: "The error mask Hmax(k) to be used in the method of 174A.9.5 is provided in Table 180–20 in the column for p = 4."
Implement with editorial license.

Cl **182** *SC* **182.1** *P* **528** *L* **24** # 245

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

Comment Type **TR** *Comment Status* **D** *(B1) (O)*

A x00G AUI-n can only be implemented in a x00GBASE-DRn-PHY above the Inner FEC. Note D in Tables 182-1/2/3/4 points to 176B.6.1, However upon reviewing 176B.4.1, 176B.5.1, 176B.6.1, 176B.7.1, it is unclear how this text denotes that an AUI can only be above the Inner FEC sublayer.

SuggestedRemedy

Figure 176B-2 is the clearest indication that an AUI can onlly be above the inner FEC sublayer. A reference to this figure should be added to Note D for Tables Tables 182-1/2/3/4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The reference to 176B.4.1, 176B.5.1, 176B.6.1, 176B.7.1 should be sufficient however it is noted that each of these subclauses incorrectly points to Figure 176B-1 rather than the correct diagram Figure 176B-2.
In 176B.4.1, 176B.5.1, 176B.6.1, 176B.7.1 change the reference to Figure 176B-1 to Figure 176B-2.

Cl **182** *SC* **182.3** *P* **531** *L* **14** # 332

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **182** *SC* **182.5.2** *P* **534** *L* **9** # 216

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *psu wording other (B1) (CI)*

"PMD control function" is a remnant from older PMD clauses.

SuggestedRemedy

Change "PMD control function" to "ILT function".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In review it was noticed that D2.1 comment #435 was not implemented in 182.5.2.
Implement suggested remedy and update 182.5.2 to ensure consistent language in 180 through 183.
Implement with editorial license.

Cl **182** *SC* **182.9.7** *P* **547** *L* **48** # 295

Maki, Jeffery — Juniper Networks

Comment Type **E** *Comment Status* **D** *editor's note (B1) (O)*

Editor's note: "outer FEC" is used with outer as an adjective except many workers think outer is part of compound noun since Inner FEC is defined as a compound noun (term).

SuggestedRemedy

Clarify the use of outer. Is Outer FEC a defined compound noun (term) or not?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #294.

Cl **182** *SC* **182.9.17** *P* **550** *L* **44** # 184

Dudek, Mike — Marvell

Comment Type **E** *Comment Status* **D** *(B1) (O)*

The reference to 182.9.13.1 is not a hot link and is incorrect.

SuggestedRemedy

Change it from 182.9.13.1 to 182.9.17.1 and make it a hot link

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **183** *SC* **183.3** *P* **563** *L* **8** # 333

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *psu rts_status (B1) (CI)*

RTS function status is now rts_status

SuggestedRemedy

Change training_status to rts_status

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **183** *SC* **183.5.2** *P* **564** *L* **9** # 217

Ran, Adee — Cisco Systems

Comment Type **E** *Comment Status* **D** *psu wording other (B1) (CI)*

"PMD control function" is a remnant from older PMD clauses.

SuggestedRemedy

Change "PMD control function" to "ILT function".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In review it was noticed that D2.1 comment #435 was not implemented in 183.5.2.
Implement suggested remedy and update 183.5.2 to ensure consistent language in 180 through 183.
Implement with editorial license.

Cl **183** *SC* **183.9.7** *P* **580** *L* **50** # 296

Maki, Jeffery — Juniper Networks

Comment Type **E** *Comment Status* **D** *editor's note (B1) (O)*

Editor's note: "outer FEC" is used with outer as an adjective except many workers think outer is part of compound noun since Inner FEC is defined as a compound noun (term).

SuggestedRemedy

Clarify the use of outer. Is Outer FEC a defined compound noun (term) or not?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #294.

Cl **183** *SC* **183.9.16** *P* **583** *L* **16** # 218

Ran, Adee — Cisco Systems

Comment Type **TR** *Comment Status* **D** *(B1) (O)*

"with parameters provided in Table 182–16"
Table 182-16 is specific to clause 182 - it includes the PMD types defined therein and the value of p for each one. Clause 183 has one PMD type and it is different, apparently only with p=4.

The same reference appears also in 183.9.17 (same clause).

SuggestedRemedy

Add a specific table for clause 183 instead of referring to Table 182-16.

Make any necessary resulting changes in the text, with editorial license.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #215

Cl **184** *SC* **184.1.3** *P* **592** *L* **50** # 297

Maki, Jeffery — Juniper Networks

Comment Type **E** *Comment Status* **D** *(B1) (L)*

"outer RS-FEC" is used with outer as an adjective except many workers think outer is part of compound noun since Inner FEC is defined as a compound noun (term).

SuggestedRemedy

Clarify the use of outer. Is Outer FEC a defined compound noun (term) or not?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delete the word "outer" in 184.1.3 on line 50 of page 592.

Cl **184** *SC* **184.4.5** *P* **598** *L* **37** # 298

Maki, Jeffery — Juniper Networks

Comment Type **E** *Comment Status* **D** *(B1) (L)*

"outer RS(544,514) FEC" is used with outer as an adjective except many workers think outer is part of compound noun since Inner FEC is defined as a compound noun (term).

SuggestedRemedy

Clarify the use of outer. Is Outer FEC a defined compound noun (term) or not?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delete the word "outer" in the first sentence of 184.4.5 on line 37 of page 598.

Cl **184** *SC* **184.7.2.2** *P* **608** *L* **28** # 368

Opsasnick, Eugene — Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Update the definition of dsp_ps_id<x> to follow the guidelines adopted during D2.1 comment resolution.

SuggestedRemedy

Add a second sentence to the definition of dsp_ps_id<x> that states:
"The value of dsp_ps_id<x> is set by the DSP lock state diagram (see Figure 184-9)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license.

Cl **184** SC **184.7.2.2** P**608** L**48** # 354

Slavick, Jeff — Broadcom

Comment Type **T** *Comment Status* **D** *(B1) (L)*

restart_lock uses the phrase "M PS" which looks a bit odd. Make it more generic and less defining how the decision to restart the lock occurs, that's what the FSM does.

SuggestedRemedy

Change "M" to "too many"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
M is defined in 184.7.2.1 as a constant.
The text as written more accurately describes the intent.

Cl **184** SC **184.7.2.2** P**609** L**15** # 369

Opsasnick, Eugene — Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

The definition of test_ps refers to the FIND_1ST state but it should also point to the state diagram with that state.

SuggestedRemedy

Change the defintion of the test_ps variable
From:
"A Boolean variable that is set to true when a candidate PS symbol position is available for testing and false when the FIND_1ST state is entered."
To:
"A Boolean variable that is set to true when a candidate PS symbol position is available for testing and false upon entering the FIND_1ST state of the DSP lock state diagram (See Figure 184-9)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license.

Cl **184** SC **184.7.3** P**611** L**47** # 338

Slavick, Jeff — Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Part of the line below LOCK_DONE is missing

SuggestedRemedy

Make the line whole

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **185** SC **185.1** P**619** L**24** # 244

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

Comment Type **TR** *Comment Status* **D** *(B1) (O)*

A 800G AUI-n can only be implemented in a 800GBASE-LR1 PHY above the Inner FEC. Note A in Table 185-1 points to 176B.6.1, However upon reviewing 176B.1, it is unclear how this text denotes that an AUI can only be above the Inner FEC sublayer.

SuggestedRemedy

Figure 176B-2 is the clearest indication that an AUI can onlly be above the inner FEC sublayer. A reference to this figure should be added to Note A for Table 185-1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #245.

Cl **185** SC **185.1** P**620** L**13** # 243

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

Comment Type **TR** *Comment Status* **D** *(B1) (O)*

Table 185-1 indicates that there are two optional PMAs - which are further clarified by Note A. However, there is no PMA sublayer denoted in Figure 185-1. Furthermore, a PMA sublayer would be necessary if a physical implementaiton was done - and that would need to be above the Inner FEC sublayer.

SuggestedRemedy

A PMA sublayer above the Inner FEC sublayer should be added to Figu 185-1.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
For the 800GBASE-LR1, a PMA is not required above the Inner FEC unless there is an 800GAUI-n. The Inner FEC behaves like a PMA.

Cl **185** SC **185.8.7** P**633** L**13** # 156

Maniloff, Eric — Ciena

Comment Type **E** *Comment Status* **D** *(B1) (O)*

In the expression 10log10[(Imean2 + Qmean2)/Psignal], mean and signal should be subscripts

SuggestedRemedy

Update formatting to put mean and signal as subscripts

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **185** *SC* **185.8.8** *P* **633** *L* **18** # 157

Maniloff, Eric — Ciena

Comment Type **E** *Comment Status* **D** *(B1) (O)*

In the expression 10log10[(Imean2 + Qmean2)/Psignal], mean and signal should be subscripts

SuggestedRemedy

Update formatting to put mean and signal as subscripts

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **185** *SC* **185.8.15** *P* **634** *L* **4** # 187

Dudek, Mike — Marvell

Comment Type **T** *Comment Status* **D** *(B1) (O)*

The block error ratio requirements in 185.2 refer to the use of test methods 174A.10 or 174A.11 not 174A.9.4 or 174A.9.5

SuggestedRemedy

Change "174A.9.4 or 174A.9.5" to "174A.10 or 174A.11". Change the error mask method reference on page 634 line 5 from "174A.9.4" to "174A.10.4" Make the same changes in section 185.8.16 (page 635 line 18 and 19).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **185** *SC* **185.9** *P* **635** *L* **29** # 14

Brown, Matt — Alphawave Semi

Comment Type **ER** *Comment Status* **D** *(B1) (O)*

The maximum value for ETCC is normatively specified in Table 185-5, which also points to 185.8.6 as a reference. 185.8.6 briefly summarizes the ETCC parameter and points to tables 185-14/15/16 which are in 185.9. And finally 185.9 points to Annex 185A and provoides the tables listed previously. There is no good reason to have this additional subclause 185.9.

SuggestedRemedy

Merge 185.9 into 185.8.6.
Similarly, merge 187.9 into 187.8.6.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **185A** *SC* **185A.2.2.1.1** *P* **943** *L* **24** # 119

Pfeifle, Joerg — Keysight Technologies

Comment Type **T** *Comment Status* **D** *(B1) (O)*

The parameters Effective number of bits (ENOB) and Oversampling ratio should be minimum quantities.

SuggestedRemedy

In Tables 185A-1, 185-14 and 187-12, add (min) to the Description for the lines ENOB and oversampling ratio.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **186** *SC* **186.2.4.1** *P* **658** *L* **31** # 375

Opsasnick, Eugene — Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

FEC_total_bits_counter and FEC_corrected_bits_counter are not qualified by pma_alignment_valid, but should be. The counters FEC_corrected_cw_count and FEC_uncoirrected_cw_counter are correctly qualified. This is very similar to the counters in 184.5.7.

SuggestedRemedy

Change the first sentence in the definition of FEC_total_bits_counter
From:
"The FEC_total_bits_counter is a 64-bit counter that counts once for each bit processed by the FEC decoder."
To:
"The FEC_total_bits_counter is a 64-bit counter that counts once for each bit processed by the FEC decoder when pma_alignment_valid is true."

Change the first sentence in the definition of FEC_corrected_bits_counter
From:
"The FEC_corrected_bits_counter is a 64-bit counter that counts once for each bit corrected by the FEC decoder."
To:
"The FEC_corrected_bits_counter is a 64-bit counter that counts once for each bit corrected by the FEC decoder when pma_alignment_valid is true."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **186** *SC* **186.4.2.1** *P* **658** *L* **12** # 377

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

PMA_IS_UNITDATA PMA_IS_SIGNAL are using incorrect punctuation.

SuggestedRemedy

Change PMA_IS_UNITDATA to PMA:IS_UNITDATA on line 12 of page 677.

Change PMA_IS_SIGNAL to PMA:IS_SIGNAL on line 8 of page 677.

Change PMD_IS_SIGNAL to PMD:IS_SIGNAL on line 39 of page 677.

Make similar fixes to the service interface signal names as necessary in the rest of Clause 186.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "PMA_IS_UNITDATA" to "PMA:IS_UNITDATA" on line 12 of page 658.
Change "PMA_IS_SIGNAL" to "PMA:IS_SIGNAL" on line 8 of page 677.
Change "PMD_IS_SIGNAL" to "PMD:IS_SIGNAL" on line 39 of page 677.
Make similar fixes to the service interface signal names as necessary throughout Clause 186.

[Editor's note: Change page from 677 to 658.]

Cl **186** *SC* **186.4.2.1** *P* **675** *L* **39** # 370

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Update the definition of faw_slip_done to follow the guidelines adopted during D2.1 comment resolution.

SuggestedRemedy

Change the definition of the variable faw_slip_done
From:
"A Boolean variable that is set to true when the FAW_SLIP requested by the FAW field lock state diagram has been completed and the next candidate 22-symbol block position is available for testing."
To:
"A Boolean variable that indicates the next candidate 22-symbol block position is available for testing. It is set to true when the FAW_SLIP function completes and is set to false upon entering the GET_BLOCK state of the 800GBASE-ER1 PMA FAW field lock state diagram (see Figure 186-17)."""

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **186** *SC* **186.4.2.1** *P* **676** *L* **1** # 387

Opsasnick, Eugene Broadcom

Comment Type **ER** *Comment Status* **D** *(B1) (L)*

The variable faws_lock<x> is defined for x = 0:1. However, fam_lock<x> and mfas_lock<x> are defined for x = 0 to 7. It is hard for the reader to follow the state diagrams when different variables use different ranges for the same index variable.

SuggestedRemedy

Change faws_lock<x> to be faws_lock<y> for y = 0 to 1, so it's indexing does not get confused with the version of x that has a range of 0 to 7. Make associated changes to the state diagrams and any usage of the faws_lock<> variables.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change the index to y as suggested. Update definitions for pma_alignment_valid and pma_all_locked. Update the LOCK_INIT, IS_BAD, and 2_GOOD states in figure 186-17.

Cl **186** *SC* **186.4.2.1** *P* **676** *L* **6** # 372

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

There should be a reference to the state machine which sets first_fam.

SuggestedRemedy

At the end of the first sentence of the definition of first_fam add "(see Figure 186-19)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Editor's note: Change page number from 677 to 676.]

Cl **186** *SC* **186.4.2.1** *P* **676** *L* **29** # 391

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Variable definitions should be in alphbetical order.

SuggestedRemedy

Fix the order of the variable definitions in 186.4.2.1. This seem to be limited to moving mfas_lock and mfas_valid. Move any other variables as necessary so all variables are in alphabetical order.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Alphabetize the variables. Varables that start with fec_ need to be moved ahead of those that start with first_,, which will then have those starting with mfas_ in the correct place in the list.

Cl **186** *SC* **186.4.2.1** *P* **677** *L* **13** # 373

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

There should be a reference to the state machine which sets first_pma_pss.

SuggestedRemedy

At the end of the first sentence of the definition of first_pma_pss add "(see Figure 186-17)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Editor's note: Change page number from 677 to 676.]

Cl **186** *SC* **186.4.2.1** *P* **677** *L* **42** # 378

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Update the definition of pma_pss_mapping<x> to follow the guidelines adopted during D2.1 comment resolution.

SuggestedRemedy

Add a second sentence to the definition of pma_pss_mapping<x> that states:
"The value pma_pss_mapping<x> is set by the 800GBASE-ER1 PMA FAW field lock state diagram (see Figure 186-17)."
And make the cross-reference a live link.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **186** *SC* **186.4.2.1** *P* **678** *L* **14** # 382

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (L)*

Update the definition of sof_raml to follow the guidelines adopted during D2.1 comment resolution.

SuggestedRemedy

Add a second sentence to the definition of sof_raml that states:
"The value sof_raml is set by the 800GBASE-ER1 FEC sublayer alignment marker location state diagram (see Figure 186-21)."
And make the cross-reference a live link.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **186** *SC* **186.4.3** *P* **681** *L* **2** # 389

Opsasnick, Eugene Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

There are two required instances of the PMA FAW field lock process state diagram 186-17 - it sets faws_lock<x> for x = 0:1. Many variables used in the state diagram should be indexed, but are not.

SuggestedRemedy

Update these variables in Figure 186-17 to be be indexed (from non-indexed):
test_faw<>
faw_slip_done<>
faw_valid<>
first_pma_pss<>
current_pma_pss<>
faw_match<>
faw_counter<>
faws_bad_count<>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license.

Cl **186** *SC* **186.4.3** *P* **683** *L* **16** # 388

Opsasnick, Eugene Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

The introduction to the state diagram figures on page 680 states that there are to be 8 instances of the fam lock process process shown in Figure 186-19. The purpose of this state diagram is to set fam_lock<x> to true when lock is achieved and to set it to false when lock is lost. The state diagram should be using separate variables/counters in each instance (like it does for fam_lock<x>), but it is not doing so for some.

SuggestedRemedy

In state diagram 186-19, change fam_counter and fam_counter_done to fam_counter<x> and fam_counter_done<x>. Change fam_valid to fam_valid<x>. Change fam_match to fam_match<x>. Change test_fam to test_fam<x>. Change fam_slip_done to fam_slip_done<x>.Change fam_bad_count to fam_bad_count<x>. Update the variable defintions as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy, including updates to the variable definitions in 186.4.2.1.

Implement with editorial license.

[Editor's note: changed page from 684 to 683.]

Cl **186** *SC* **186.4.3** *P* **683** *L* **27** # 371

Opsasnick, Eugene Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

In Figure 186-19, in state COUNT_NEXT, there seems to be a missing assignment to the first_fam variable. Note that a similar assignment for first_pma_pss is done in the COUNT_NEXT state of Fig. 186-17.

SuggestedRemedy

Add the following statement to the COUNT_NEXT state in Fig. 186-19:
"first_fam <= current_fam"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **186** *SC* **186.4.3** *P* **684** *L* **16** # 385

Opsasnick, Eugene Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

The introduction to the state diagram figures on page 680 states that there are to be 8 instances of the multi-frame alignment process shown in Figure 186-20. The purpose of this state diagram is to set mfas_lock<x> to true when alignment lock is achieved and to set it to false when lock is lost. The state diagram should be using separate variables/counters in each instance (like it does for mfas_lock<x>), but it is not doing so for some.

SuggestedRemedy

In state diagram 186-20, change frame_counter and frame_counter_done to frame_counter<x> and frame_counter_done<x>. Change mfas_valid to mfas_valid<x>. Change mfas_bad_count to mfas_bad_count<x>. Update the variable defintions as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy, including updates to the variable definitions in 186.4.2.1. Implement with editorial license.

Cl **186** *SC* **186.4.3** *P* **685** *L* **12** # 380

Opsasnick, Eugene Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

In Figure 186-21, the condition to leave the RAML_CNT_INC and re-enter the same state says:
"!raml_align *
block_tx *
raml_counter = raml_max_count"

The last condition of "raml_counter = raml_max_count" looks incorrect. It should either be "raml_counter < raml_max_count" or maybe "raml_counter != raml_max_count"

SuggestedRemedy

Change the condition to leave the RAML_CNT_IN state and go back to itself
From:
"!raml_align *
block_tx *
raml_counter = raml_max_count"
To:
"!raml_align *
block_tx *
raml_counter < raml_max_count"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Note that the suggested remedy is consistent with the baseline in slavick_3dj_optx_01_241219.pdf

Implement the suggested remedy with editorial license.

Cl **186** *SC* **186.4.3** *P* **685** *L* **19** # 383

Opsasnick, Eugene Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

The global transition entry to the state WAIT_FOR_FRAME in state diagram Figure 186-21 says "!mfas_lock". However, mfas_lock is an indexed variable with 8 different values - it is defined as mfas_lock<x>, for x=0 to 7. This condition should probable be taken if any of the 8 mfas_lock<x> variables is false, but it is not possible to tell if it currently means any of the 8 values is false or if all 8 are false or maybe just testing mfas_lock<0>. There is already a variable defined for when any of the values is false.

SuggestedRemedy

Change the condition for the global transition into the WAiT_FOR_FRAME state from "!mfas_lock" to "!fec_all_mfas_locked".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The 800GBASE-R signal can only be recovered when all 8 of the tributary flows in the ER1 FEC frame are frame and multiframe aligned.

Implement the suggested remedy with editorial license.

Cl **186** *SC* **186.4.3** *P* **685** *L* **23** # 384

Opsasnick, Eugene Broadcom

Comment Type **TR** *Comment Status* **D** *(B1) (L)*

sof_raml is set to the value contained in raml_counter upon entering the WAIT_FOR_FRAME state; however, it should probably only be set after the frame_counter_done is true which indicates a start of frame has been received.

SuggestedRemedy

Move the assignment of "sof_raml <= raml_counter" from the WAIT_FOR_FRAME state to be the first statement in the RAML_CHK state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

sof_raml is the value of raml_counter at the start of a frame, so it should only be set when the start of a frame has been detected, which is after exiting the WAIT_FOR_FRAME state.

Implement the suggested remedy with editorial license.

Cl **186** *SC* **186.4.3** *P* **685** *L* **36** # 381

Opsasnick, Eugene Broadcom

Comment Type **T** *Comment Status* **D** *(B1) (L)*

In the RAML_INVALID state of the state diagram in Figure 186-21, there is a conditional statement with "if (AML = 0) …". However "AML" is not a defined state diagram variable in 186.2.4.1. It appears to be referring to the value of the 24-bit AML field of the OH data. Suggest changing "AML" to "aml_value" and defining this new variable.

SuggestedRemedy

Change "if (AML = 0) …" to "if (aml_value) = 0) …".

Add new valiable aml_value to list of variable definitions in 186.2.4.1 with definition:

aml_value
Set to the 24-bit value received in the AML fields of the multi-frame overhead (see 186.2.3.5.10).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license.

Cl **187** *SC* **187.1** *P* **695** *L* **36** # 246

D'Ambrosia, John Futurewei, U.S. Subsidiary of Huawei

Comment Type **TR** *Comment Status* **D** *(B1) (O)*

An 800G AUI-n can only be implented above the 800GBASE-ER1 FEC Sublayer. Note A in Table 187-1 points to 17B.6.1. However upon reviewing 176B.1, it is unclear how this text denotes that an AUI can only be above the 800GBASE-ER1 FEC Sublayer.

SuggestedRemedy

Figure 176B-2 is the clearest indication that an 800G AUI can onlly be above the 800GBASE-ER1 FEC Sublayer. A reference to this figure should be added to Note A for Table 187-1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #245.

Cl **187** *SC* **187.3** *P* **697** *L* **18** # 376

Opsasnick, Eugene Broadcom

Comment Type **E** *Comment Status* **D** *(B1) (O)*

In Figure 187-2, the ER1 FEC, ER1 PMA, and ER1 PMS service interfaces are using underscore where a colon ":" should be.

SuggestedRemedy

Change FEC_IS_UNITDATA.request to FEC:IS_UNITDATA.request
Change FEC_IS_SIGNAL.indication to FEC:IS_SIGNAL.indication
Change FEC_IS_UNITDATA.indication to FEC:IS_UNITDATA.indication

Make similar changes to the PMA and PMD service interface signals in the same figure.

Make similiar fixes throughout Clause 187 as needed.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

[Editor's note: Change page from 658 to 697.]

Cl **187** *SC* **187.6.1** *P* **704** *L* **16** # 21

Brown, Matt Alphawave Semi

Comment Type **E** *Comment Status* **D** *(B1) (O)*

UI_RMS and UI_PP are not appropriate units. The nature of the parameter is defined by the description and the related test method.

SuggestedRemedy

Change "UI_RMS" and "UI_pp" to "UI".
Also, in Clause 185 on page 628 line 9 and line 11

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license.

Cl **187** *SC* **187.8.7** *P* **709** *L* **13** # 158

Maniloff, Eric Ciena

Comment Type **E** *Comment Status* **D** *(B1) (O)*

In the expression 10log10[(Imean2 + Qmean2)/Psignal], mean and signal should be subscripts

SuggestedRemedy

Update formatting to put mean and signal as subscripts

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **187** *SC* **187.8.8** *P* **709** *L* **19** # 159

Maniloff, Eric Ciena

Comment Type **E** *Comment Status* **D** *(B1) (O)*

In the expression 10log10[(Imean2 + Qmean2)/Psignal], mean and signal should be subscripts

SuggestedRemedy

Update formatting to put mean and signal as subscripts

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.