Cl **176** *SC* **176.7.4.2** *P* **317** *L* **16** # 9

Marris, Arthur — Cadence Design Systems

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

The PRB31Q pattern needs decoding before being sent to the PRBS31 checker, not after it has been sent to the checker.

SuggestedRemedy

Change the word "followed" to "preceded" in "The PRBS31Q test pattern checking is provided by the PRBS31 checker (see 176.7.4.1), followed by inverse precoding (if enabled), and inverse Gray mapping in the PAM4 decoder (see 176.4.3.5)." Also consider using similar wording in 177.6.2.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change line 16 on page 317 in 176.7.4.2,
From: "The PRBS31Q test pattern checking is provided by the PRBS31 checker (see 176.7.4.1), followed by inverse precoding (if enabled), and inverse Gray mapping in the PAM4 decoder (see 176.4.3.5)."
To: "The PRBS31Q test pattern checking is provided by the PRBS31 checker (see 176.7.4.1). PRBS31Q data is first processed by inverse precoding (if enabled) and inverse Gray mapped in the PAM4 decoder (see 176.4.3.5), prior to the PRBS31 pattern checker."

No updates are necessary in 177.6.2.2 because wording is different and the suggested remedy does not apply.

Cl **178B** *SC* **178B.5.2** *P* **789** *L* **2** # 54

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *(Common) (bucket2)*

Use of the word guarantee, in two places. This will likely be flagged during MEC. Staff review will likely recommend this replaced with "helps ensure".

SuggestedRemedy

change "guarantees" to "helps ensure" in two places on lines 2 and 3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change:
"As shown in the RTS control state diagram (Figure 178B–7) local_rts is set to true only after the transmit clock is derived from the PCS clock. This guarantees that the transition between clock sources occurs while sending local_rts = false."

To:
"As shown in the RTS control state diagram (Figure 178B–7) local_rts is set to true only after the transmit clock is derived from the PCS clock, such that the transition between clock sources occurs while sending local_rts = false."

Cl **178B** *SC* **178B.14.2.1** *P* **804** *L* **15** # 55

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *(Common) (bucket2) ILT*

Use of the work avoid. This will likely be flagged during MEC. Staff review would likely recommend to replace with "help reduce".

SuggestedRemedy

change "avoid" to "help reduce".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change:
"To avoid live-lock situations, ILT should only be restarted if there is an indication of an unrecoverable fault."
To:
"Restarting ILT might result in a live-lock situations, thus ILT should only be restarted if there is an indication of an unrecoverable fault."

Cl **169** *SC* **169.2.9** *P* **190** *L* **25** # 57

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *(Common) (bucket2)*

Use of "may".

SuggestedRemedy

change "may optionally support" to "optionally supports"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **174** *SC* **174.2.11** *P* **250** *L* **26** # 58

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *(Common) (bucket2)*

Use of "may".

SuggestedRemedy

change "may optionally support" to "optionally supports"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **175** *SC* **175.1.3** *P* **261** *L* **10** # 69

Bruckman, Leon Nvidia

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

"FEC degrade detection and signaling" is an optional function (see 175.3), no need to list it here. It is not listed in similar sections in 802.3df (88GBASE-R PCS) or the base standard (200G/400GBASE-R PCS)

SuggestedRemedy

Either delete the bullet: FEC degrade detection and signaling
Or add: (optional) to the end of the text for this bullet

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

FEC degrade signaling is required. Only the FEC degrade detection is optional.
Change
From: "FEC degrade detection and signaling"
To: "FEC degrade signaling"

Cl **176** *SC* **176.2** *P* **292** *L* **51** # 76

Bruckman, Leon Nvidia

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

Inconsistent naming with the paragraphs above. See similar paragraph in section 176.3 (page 294 line 8)

SuggestedRemedy

Change: "from the sublayer above the PMA" to: "from the client sublayer"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176** *SC* **176.3** *P* **294** *L* **12** # 77

Bruckman, Leon Nvidia

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

It is not clear which SIGNAL_OK is being considered. In the similar paragraph of section 176.2 the description is more deltailed.

SuggestedRemedy

Change: "the received SIGNAL_OK value."
to: "the received SIGNAL_OK parameter from the sublayer above the PMA (PMA:IS_SIGNAL.request(SIGNAL_OK))."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **176** *SC* **176.4.2.3.1** *P* **298** *L* **3** # 79

Bruckman, Leon Nvidia

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

The same information is provided in the text and in the eqautions below

SuggestedRemedy

Delete: "For the 200GBASE-R 8:1 PMA, it equals N × 272 RS-FEC symbols, and for the 400GBASE-R 16:2 PMA, it equals N × 136 RS-FEC symbols, where N is an integer."
After the bullets add this text: "where N is an integer."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

In 176.4.2.3.1, change the sentence immediately above the dashed list.
From: "For the 200GBASE-R 8:1 PMA, it equals N × 272 RS-FEC symbols, and for the 400GBASE-R 16:2 PMA, it equals N × 136 RS-FEC symbols, where N is an integer."
To: "For any N, where N is an integer, the remaining inter-lane skew is calculated as: "

Implement with editorial license.

Cl **185** *SC* **185.6** *P* **563** *L* **51** # 96

Bruckman, Leon Nvidia

Comment Type **TR** *Comment Status* **D** *(Optical) (bucket2)*

An 800GBASE-LR1 PMD that supports 10Km is obviously complaint sinc ethis is the requirement

SuggestedRemedy

Change: "could operate over 10 km would meet the operating range requirement of 2 m to 10 km"
To: "could operate over 12 km would meet the operating range requirement of 2 m to 10 km"

Proposed Response *Response Status* **W**

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

Cl **187** *SC* **187.6** *P* **637** *L* **54** # 104

Bruckman, Leon Nvidia

Comment Type **TR** *Comment Status* **D** *(Optical) (bucket2)*

An 800GBASE-ER1 PMD that supports 40Km is obviously complaint sinc ethis is the requirement

SuggestedRemedy

Change: "could operate over 40 km would meet the operating range requirement of 2 m to 40 km"
To: "could operate over 45 km would meet the operating range requirement of 2 m to 40 km"

Proposed Response *Response Status* **W**

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

Cl **174A** *SC* **174A.3** *P* **677** *L* **44** # 105

Bruckman, Leon Nvidia

Comment Type **ER** *Comment Status* **D** *(Common) (bucket2)*

The note regarding FLR is repeated several times

SuggestedRemedy

Remove the notes regarding the FLR not being normative for any sublayer. Add a general sentence at the end of 74A.2 with the note's text.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Each note is specific to the path covered in the subclause. Using a common note elsewhere would not be as helpful. The notes in the current locations are more helpful.

Cl **178B** *SC* **178B.5.3** *P* **789** *L* **47** # 119

Mascitto, Marco Nokia

Comment Type **E** *Comment Status* **D** *(Common) (bucket2)*

Subclause 178B.3 defines Path as the series of all ISLs between the two PCSs (or XSs), so use of "PCS to PCS path" or "main path" may cause confusion (as it suggests something different). I was thinking about suggesting a rename of "Path" to "ILT Path" to emphasize the end-to-end scope. Not sure if that is any better.

SuggestedRemedy

Replace "PCS to PCS path" and "main path" with "path".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change: "AUI components within an xMII Extender may train before or in parallel with the PCS to PCS path, and training signaling will continue until the main path is ready. This is the same behavior as AUI components within a PHY."
To: "AUI components within an xMII Extender have the same behavior as AUI components within a PHY."
Implement with editorial license.

Cl **116** *SC* **116.1.4** *P* **149** *L* **34** # 162

Huber, Thomas Nokia

Comment Type **TR** *Comment Status* **D** *(Common) (bucket2)*

The clause numbers in Table 116-3a are incorrect and the columns are not in the right order. Auto-Negotiation is clause 73 rather than 116, and should be the left-most column. (the text was correct in the table inserted by 802.3ck, so the errors were introduced here in 802.3dj)

SuggestedRemedy

Change 116 to 73, and swap the order of the first two columns so 73 comes first.

Proposed Response *Response Status* **W**

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

Cl **176** *SC* **176.4.2.4** *P* **298** *L* **37** # 179

Huber, Thomas Nokia

Comment Type **E** *Comment Status* **D** *(Logic) (bucket2)*

In the second paragraph, the phrases that start with "which employ…" are not necessary to understand the sentence (they are additional explanatory information), so they should be separated by commas both before and after the phrases.

SuggestedRemedy

Add a comma after 800GBASE-R 32:4 PMAs and after 1.6TBASE-R 16:8 PMA, so it reads as follows:

This delay function is used by the 200GBASE-R 8:1, 400GBASE-R 16:2, and 800GBASE-R 32:4 PMAs, which employ symbol-pair multiplexing, but not by the 1.6TBASE-R 16:8 PMA, which employs symbol-quartet multiplexing.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **184** *SC* **184.2** *P* **533** *L* **8** # 200

Huber, Thomas Nokia

Comment Type **E** *Comment Status* **D** *(Logic) (bucket2)*

Missing a hyphen in the compound adjective 'BCH(126, 110) encoded'

SuggestedRemedy

Change to "…interleaving the BCH(126,110)-encoded flows…"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "before interleaving the BCH(126,110) encoded flows"
To: "before interleaving the encoded flows"

Cl **178B** *SC* **178B.5** *P* **787** *L* **37** # 225

Huber, Thomas Nokia

Comment Type **E** *Comment Status* **D** *ommon) ILT layout (bucket2)*

The organization of subclauses 178B.5 through 178B.13 is suboptimal. The path start-up protocol depends on the per-ILS training protocol, so it would be better to introduce that first, and to have all the various pieces of that in one subclause rather than spread across 8 subclauses. Further, 178B.5.1 seems to be about the individual ISL training rather than the path startup process. and 178B.5.2 and 178B.5.3 are examples of individual ISL training

SuggestedRemedy

Rearrange the material as follows [comments relateive to current clauses in square brackets and are not intended to be included in the text of the document]:
178B.5 ISL training [new heading]
178B.5.1 Interface behavior [curent 178B.5.1]
178B.5.1.1 Training retimers [current 178B.5.2]
178B.5.1.2 Training xMII Extenders [current 178B,5,3]
178B.5.2 Training frame structure [current 178B.6]
178B.5.3 Control field structure [curernt 178B.7]
178B.5.4 Status field structure [current 178B.8]
178B.5.5 Trainng frame lock [current 178B.9]
178B.5.6 Polarity detection and correction [current 178B.10]
178B.5.7 Equalization control [current 178B.11]
178B.5.8 Training pattren setting [current 178B.12]
178B.5.9 Handshake timing [current 178B.13]
178B.6 Path start-up protocol [current 178B.5, without the subclauses included above]
178B.7 State diagrams [current 178B.14]
178B.8 Management variables [current 178B.15]
178B.9 PICS [current 178B.16]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Rearrange the subclauses as suggested with editorial license.

Cl **178B** *SC* **178B.5.1** *P* **788** *L* **9** # 227

Huber, Thomas Nokia

Comment Type **E** *Comment Status* **D** *(Common) (bucket2)*

"Interface" is vague. I think this clause is about lanes in an ISL.

SuggestedRemedy

Replace "interface" with something more specific and clear. "ISL endpoint" and "ISL lane" could be used as appropriate throughout the clause.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Interface is never concisely defined in Annex 178B. A defining statement near the beginning would be helpful.
The definition of "Interface" should be in line with the new definition for "ISL" as provided in the resolution to closed comment #222.
Also, the term "AUI component" should be defined collectively as either a C2C component or C2M component defined in 176C and 176D, respectively. Other changes to the definition would be helpful. The response to closed comment #221 provides some related wording changes.

Change the definition of "AUI component" in 178B.3 to the following:
"AUI component
An AUI component is either a C2C component (e.g., see 176C.3) or a C2M component (e.g., see 176D.3). In a device with two AUI components the upper AUI component is the one facing toward the MAC sublayer and the lower AUI component is the one facing toward the medium."

Add a definition for "Interface" in 178B.3 as follows:
"Interface
Unless qualified otherwise, interface is either an AUI component or a PMD."

Implement with editorial license.

Cl **116** *SC* **116.1.4** *P* **148** *L* **1** # 232

Huber, Thomas Nokia

Comment Type **T** *Comment Status* **D** *on) ILT PHY tables (bucket2)*

ILT is mandatory for 200G/lane PHYs and AUIs. 178B appears in the tables in the 200G/lane PMD clauses as Required. As such, it should appear in the tables in the introduction as well.

SuggestedRemedy

Update Table 116-3 to show that 178B is conditionally required (based on whether 200G AUIs are used), 116-3aa so show that 178B is mandatory, 116-3a o show it as conditional, 116-3b to show it as mandatory, 116-4 to show it as conditional,116-4a to show it as mandatory, 116-5 to show it as conditional, and 116-5a to show it as mandatory. There may be older 200G and 400G PMD clauses that also need to be updated to indicate the optional use of the 200G/lane AUIs and conditional use of ILT

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Unlike other clauses listed in the these tables, Annex 178B defines functionality within a PMD sublayer or an AUI component.

ILT might be defined uniquely within each clause/annex that uses it or (as we have done in the past) or it might be defined in a common location and referenced from each clause or annex that needs it.

For past generations of CR and KR PHYs, link training was defined either in the CR or KR clause and referenced from the other clause. We did not need to reference it from the tables in the introduction clauses.

For the tables in 116 and 168, since ILT is defined for 200 Gb/s per lane AUIs and a these AUIs may be used in a physical layer implementation with 100 Gb/s or lower per lane PMD we would have to list Annex 178B in every clause table in clauses 116 and 169 and the context would have to be clearly layed out.

Also, note that we do not in practice reference subsidiary clauses/annexes in these tables, e.g., the annexes that define COM for AUIs and electrical PMDs in Annex 93A and 178A.

Furthermore, the context of ILT is rather muddy as it could be the exchange of information between link partners on an ISL or it could mean the coordination of ISL along path using in-band signaling, or both.

There is ongoing task force discussion to provide better clarity on the terminology and context of ILT. Once this is settled the CRG will be in a better position to update these tables appropriately. Further work on this topic is encouraged.

There is no consensus to make the proposed changes at this time.

Cl **169** *SC* **169.1.4** *P* **187** *L* **1** # 233

Huber, Thomas Nokia

Comment Type **T** *Comment Status* **D** *ɔn) ILT PHY tables (bucket2)*

ILT is mandatory for 200G/lane PHYs and AUIs. 178B appears in the tables in the 200G/lane PMD clauses as Required. As such, it should appear in the tables in the introduction as well.

SuggestedRemedy

Update table 169-2 to show 178B as mandatory for the KR4 and CR4 PHYs and conditional for the KR8/CR8. Update table 169-3 to show 178B as mandatory for xR4 (including FR4-500) and conditional for xR8. Update table 169-3a to include 178B as conditional for all PHYs. It may be necessary to also update the PMD clauses that were updated in 802.3df (for the 800GBASE-xR8 PHYs) to show the new AUIs as optional and ILT as conditional

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Resolve using the response to comment #232.

Cl **174** *SC* **174.1.4** *P* **248** *L* **1** # 234

Huber, Thomas Nokia

Comment Type **T** *Comment Status* **D** *on) ILT PHY tables (bucket2)*

ILT is mandatory for 200G/lane PHYs and AUIs. 178B appears in the tables in the PMD clauses as Required. As such, it should appear in the tables in the introduction as well.

SuggestedRemedy

Update tables 174-2 and 174-3 to include 178B as conditional for all PMDs

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Resolve using the response to comment #232.

Cl **73** *SC* **73.4.2** *P* **130** *L* **15** # 296

Brown, Matt Alphawave Semi

Comment Type **E** *Comment Status* **D** *(Logic) (bucket2)*

Use of possesive grammar is inconsistent with similar phrases used through this draft and is unecessary here.

SuggestedRemedy

Change "link partner's" to "link partner"
Also on page 131 line 51

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Reduce the usage of possessive where it can be avoided, with editorial license.

Cl **175** *SC* **175.2.4.6** *P* **265** *L* **28** # 298

Brown, Matt Alphawave Semi

Comment Type **E** *Comment Status* **D** *(Logic) (bucket2)*

Use of possesive grammar is inconsistent with similar phrases used through this draft and is unecessary here.

SuggestedRemedy

Change "PCS lane's" to "PCS lane"

Proposed Response *Response Status* **W**

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

Cl **178B** *SC* **178B.11.4** *P* **802** *L* **25** # 325

Brown, Matt Alphawave Semi

Comment Type **T** *Comment Status* **D** *(Common) (bucket2)*

Use of possesive grammar is inconsistent with similar phrases used through this draft and is unecessary here.

SuggestedRemedy

Change "transmitter's" to "transmitter", three instances. Also, page 808 line 17, 4 instances. Also on page 804 line 44, change "interface's" to "other interface"

Proposed Response *Response Status* **W**

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

Cl **183** *SC* **183.7.1** *P* **512** *L* **29** # 329

Landry, Gary Texas Instruments

Comment Type **E** *Comment Status* **D** *(Optical) (bucket2)*

min OMA limits for higher TECQ/TDECQ values are referenced to an equation outside the table (Eq 183-1).

SuggestedRemedy

To increase readability and maintain parallel structure to to other clauses (e.g., 180, 181, and 182), bring external equation into the table

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Including the equation within the table would ideally improve readability and maintain consistency with clauses 180, 181, and 182.

However, the table in clause 183 has only half the space available compared to those clauses, and the equation does not fit within the current layout. Thus the equations are provided outside of the table and referenced from within the table.

Cl **183** *SC* **183.7.1** *P* **512** *L* **31** # 330

Landry, Gary — Texas Instruments

Comment Type **E** *Comment Status* **D** *(Optical) (bucket2)*

min OMA limits for higher TECQ/TDECQ values are referenced to an equation outside the table (Eq 183-2).

SuggestedRemedy

To increase readability and maintain parallel structure to to other clauses (e.g., 180, 181, and 182), bring external equation into the table

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Including the equation within the table would ideally improve readability and maintain consistency with clauses 180, 181, and 182.

However, the table in clause 183 has only half the space available compared to those clauses, and the equation does not fit within the current layout. Thus the equations are provided outside of the table and referenced from within the table.

Cl **179** *SC* **179.9.4.7** *P* **403** *L* **19** # 371

Ghiasi, Ali — Ghiasi Qunatum/Marvell

Comment Type **TR** *Comment Status* **D** *(Electrical) ERL (bucket2)*

Not clear why Nbx is zero

SuggestedRemedy

Suggest to make Nbx=15 which number of fixed FFE taps

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The existing N_bx value 0 is consistent with the CR PMD in 802.3ck (Clause 162).
Note that the 15 FFE taps of the reference receiver are assumed to be used to equalize the channel (cable assembly) and are accounted for in COM calculation. Assuming that the same taps are used to address discontinuities in the host in ERL would be double counting. Such discontinuities can create multiple reflections combined with the cable, and thus should affect ERL.

The comment does not provide sufficient justification to support the suggested remedy.

Cl **178B** *SC* **178B** *P* **786** *L* **10** # 397

Mi, Guangcan — Huawei Technologies Co., Ltd

Comment Type **TR** *Comment Status* **D** *nmon) ILT coherent (bucket2)*

ILT should be supported for coherent optical PMDs, at the minimum 800GBASE-LR1 spec. 800GBASE-LR1 and 800GBASE-LR4 modules can be used in the same switch/router, and potentially interchangable in pairs in deploying network equipment depending on the fiber link condition. By allowing ILT in 800GBASE-LR1, the host equipment does not need to differentiate the optical port, and use one routine of link up process. This brings benefits to opex and firmware development.

This comment also requires updates to sub clause 160.2.10 in page190.

SuggestedRemedy

Extend ILT capability to LR1, at the minimum by supporting transmission of RTS. RTS condition of the ISL path between two LR1 PMDs could be derived from the states of the LR1 inner FEC, where dsp frame locking and aligning are already performed. A contribution will be provided.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **185** *SC* **185.3.1.3.2** *P* **560** *L* **1** # 400

Mi, Guangcan — Huawei Technologies Co., Ltd

Comment Type **TR** *Comment Status* **D** *nmon) ILT coherent (bucket2)*

the SIGNAL_OK of 800GABSE-LR1 is tied to Global_PMD_signal_detect, which is decided based on the optical power at the receiver. This doesn't guarantee a valid, decodable signal, as suggested by the note below the paragraph. With this definition, the parameter SIGNAL_OK doesn't bear sufficient information to help bring up the link. While the IMDD optical PMDs, by leveraging ILT, SIGNAL_OK can indicate the received signal meets the minimum requirement of communication, making it a meaningful parameter. There is no reason not to do the same in the case of LR1.

SuggestedRemedy

change the signal_ok definition, tie it to the state of LR1 Inner FEC, or ILT state if allowed. This comment is related to the comment regarding ILT in coherent PMDs. A contribution will be provided

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **174A** *SC* **174A.8.1.7** *P* **683** *L* **7** # 405

Mi, Guangcan — Huawei Technologies Co., Ltd

Comment Type **TR** *Comment Status* **D** *ɔn) block error ratio (bucket2)*

In this section, the block error ratio method for a single lane is described. The block error counters are measured independently for each lane. In the determination of lane l, step d) says "For p times, iteratively assign the result of hconv(He(k) , Hm(k)) (see 174A.8.1.4) to He(k).", It is unclear what does the p times mean in this step.
To measure p times the lengths of blocks? and use the collected as 1 dataset?
To repeat the same measurement on the same lengths of blocks for p times? Should the histogram be averaged over the p times of measurement?

SuggestedRemedy

please clarify.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The text is 174A.8.1.7 requires some clarification.

Implement the changes, with editorial licnese, on the slide titled "Comment #405" (slide 35) in the following contribution:
https://www.ieee802.org/3/dj/public/25_07/brown_3dj_03b_2507.pdf

Cl **187** *SC* **187.1** *P* **630** *L* **44** # 419

Ran, Adee — Cisco Systems

Comment Type **TR** *Comment Status* **D** *ɲmon) ILT coherent (bucket2)*

In order to bring up a link that includes multiple ISLs, the functionality of ILT as specified by Annex 178B (specifically Figure 178B–7 and Figure 178B–8) is required across ISLs. This is true regardless of the PMD type, and even if the PMD does not use a training protocol, such as 800GBASE-ER1 and 800GBASE-ER1-20.

In PMDs that don't have a training protocol, the "quiet" and "local pattern" modes are the method of communicating the RTS to the peer. However, the local pattern is currently not defined.

SuggestedRemedy

Add 178B-ILT, Required as row in Table 187-1 (as in other PMD clauses)..

Add a subclauase under 187 defining the ILT functionality; it is as specified in Annex 178B, with mr_training_enable always set to false (since 800GBASE-ER1/ER1-20 don't have a training protocol). Specify that the 800GBASE-ER1 FEC encoded PRBS31 test pattern defined in 186.2.3.12 (which may be generated by the 800GBASE-ER1 FEC sublayer) is the pattern used when tx_mode has the value local_pattern (see 178B.14.3.1).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **179C** *SC* **179C.1** *P* **833** *L* **25** # 437

Ran, Adee — Cisco Systems

Comment Type **TR** *Comment Status* **D** *al) MDI References (bucket2)*

There are currently no specifications, neither final or draft, of SFP224 and SFP-DD224 that can be referred to.

The amendment cannot be finalized with references to undefined specifications.

We should at least decide on a deadline for availability of these specifications. If they are not available by the deadline, they will need to be removed.

SuggestedRemedy

Add editor's note at the beginning of Annex 179C stating that SFP224 and SFP-DD224 specifications are not available yet, and that all references to these connector types will be removed if specifications are not available by the first SA ballot recirculation (i.e. they will not appear in D3.1).

These notes should replace the notes in 179C.2.1 and 179C.2.2.

Add similar notes in 179.11.7.2.2 and 179.12 where these connectors are mentioned too.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The comment identifies an issue regarding the completeness of the references to the MDI connector types defined in Annex 179C.
Resolve using the response to comment #483.

Cl **179C** *SC* **179C.2.3** *P* **841** *L* **40** # 438

Ran, Adee — Cisco Systems

Comment Type **T** *Comment Status* **D** *al) MDI References (bucket2)*

The Editor's note is obsolete - the recent version of SFF-TA-1027 (1.0.6, https://members.snia.org/document/dl/36947) does include QSFP224.

SuggestedRemedy

Delete the note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The update of the reference to SFF-TA-1027 is addressed by the response to Comment #434.
Assuming the reference is updated to a version that includes QSFP224, remove the editor's note.

Cl **169** *SC* **169.2.10** *P* **190** *L* **52** # 546

Maki, Jeffery Juniper Networks

Comment Type **TR** *Comment Status* **D** *ımon) ILT coherent (bucket2)*

800GBASE-LR1, 800GBASE-ER1-20, and 800GBASE-ER1 are missing in the list. There is no reason to exclude coherent PHY types from using ILT. They will benefit from optical receiver adaption and thus ability to receive Ready To Send signaling for the bring up of the entire link (PHY) as is the case for IMDD PHY types.

SuggestedRemedy

Add 800GBASE-LR1, 800GBASE-ER1-20, and 800GBASE-ER1 (See additional comments that correct missing mandatory ILT support for these PHY types.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **185** *SC* **185.1** *P* **556** *L* **40** # 547

Maki, Jeffery Juniper Networks

Comment Type **TR** *Comment Status* **D** *ımon) ILT coherent (bucket2)*

Associated clause 178B—ILT is missing as Required for 800GBASE-LR1.

SuggestedRemedy

Add Associated clause 178B—ILT as Required for 800GBASE-LR1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **185** *SC* **185.5** *P* **560** *L* **27** # 548

Maki, Jeffery Juniper Networks

Comment Type **TR** *Comment Status* **D** *ımon) ILT coherent (bucket2)*

"Inter-sublayer link training (ILT) function" is missting in "185.5 PMD functional specifications."

SuggestedRemedy

Add to "185.5 PMD functional specifications" a sub-subclause with approprate numbering entitled "Inter-sublayer link training (ILT) function" with text "A PMD shall provide the ILT function for a Type O1 interface, specified in Annex 178B. When the variable mr_training_enable is true, the ILT function is used to request changes to the peer transmitter state (modulation, training pattern, and precoder state), indicate the receiver state, and coordinate the transition to DATA mode."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **185** *SC* **185.5.1** *P* **561** *L* **7** # 549

Maki, Jeffery Juniper Networks

Comment Type **TR** *Comment Status* **D** *ımon) ILT coherent (bucket2)*

SIGNAL_OK --> ILT and ILT --> SIGNAL_OK missing from Figure 185-3.

SuggestedRemedy

Add SIGNAL_OK --> ILT and ILT --> SIGNAL_OK to Figure 185-3. Add text in paragraph above stating, "The ILT function indicated in Figure 185–3 is defined in Annex 178B."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **187** *SC* **187.1** *P* **630** *L* **39** # 550

Maki, Jeffery Juniper Networks

Comment Type **TR** *Comment Status* **D** *ımon) ILT coherent (bucket2)*

Associated clause 178B—ILT is missing as Required for 800GBASE-ER1-20 and 800GBASE-ER1.

SuggestedRemedy

Add Associated clause 178B—ILT as Required for 800GBASE-ER1-20 and 800GBASE-ER1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **187** *SC* **187.5** *P* **634** *L* **27** # 551

Maki, Jeffery Juniper Networks

Comment Type **TR** *Comment Status* **D** *ımon) ILT coherent (bucket2)*

"Inter-sublayer link training (ILT) function" is missting in "187.5 PMD functional specifications."

SuggestedRemedy

Add to "187.5 PMD functional specifications" a sub-subclause with approprate numbering entitled "Inter-sublayer link training (ILT) function" with text "A PMD shall provide the ILT function for a Type O1 interface, specified in Annex 178B. When the variable mr_training_enable is true, the ILT function is used to request changes to the peer transmitter state (modulation, training pattern, and precoder state), indicate the receiver state, and coordinate the transition to DATA mode."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **187** *SC* **187.5.1** *P* **635** *L* **7** # 552

Maki, Jeffery — Juniper Networks

Comment Type **TR** *Comment Status* **D** *ımon) ILT coherent (bucket2)*

SIGNAL_OK --> ILT and ILT --> SIGNAL_OK missing from Figure 187-3.

SuggestedRemedy

Add SIGNAL_OK --> ILT and ILT --> SIGNAL_OK to Figure 187-3. Add text in paragraph above stating, "The ILT function indicated in Figure 187–3 is defined in Annex 178B."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **178B** *SC* **178B.2** *P* **786** *L* **20** # 553

Maki, Jeffery — Juniper Networks

Comment Type **TR** *Comment Status* **D** *:ommon) ILT scope (bucket2)*

The description "ILT supports these functions through the continuous exchange of fixed-length training frames between peer interfaces in an ISL" indicates training frames are continuously exchanged. The presumed purpose to be contiuous would be for the AUI components to update their equalization coeficients yet there is no desription of returning to training such as with recovered clock while continuing to carry real traffic nor is there status indicators that updated training is occurring.

SuggestedRemedy

Add to "Table 178B–2—Control field structure for E1 interfaces" indicator that updated training is occurring using traffic and recovered clock.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #418.

Cl **177** *SC* **177.5.5** *P* **339** *L* **6** # 569

Nicholl, Shawn — AMD

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

Current text: "... when fas_lock is true (k = 0 to 3). For example, if an Inner FEC codeword has exactly two bits corrected, then Inner_FEC_codeword_error_bin_2 is incremented. Error bin 3 increments when three or more bits are corrected in an Inner FEC codeword."

The text in Sub-Clause "177.5.5 Inner FEC decode" is inconsistent with "Table 45-212l -- Inner FEC codeword error bin register definitions". The MDIO register contains bin_0 through bin_4.

SuggestedRemedy

Proposed text: "... when fas_lock is true (k = 0 to 4). For example, if an Inner FEC codeword has exactly two bits corrected, then Inner_FEC_codeword_error_bin_2 is incremented. Error bin 4 increments when four or more bits are corrected in an Inner FEC codeword."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The text in 177.5.5 is correct as written.

For Clause 177 Inner FEC, bin 3 counts codewords with 3 or more bits corrected and bin 4 is not used. For Clause184 Inner FEC, bin 3 counts codewords with 3 bits corrected (only), and bin 4 counts codewords with 4 or more bits corrected. The register set in 45.2.1.262 is used for both types of Inner FEC. The register description in 45.2.1.262 should be corrected to reflect this difference.

Replace the third paragraph of 45.2.1.262:
"The bin 0 register (1.2424, 1.2425) keeps a count of codewords with no bit errors, the bin 1 register (1.2426, 1.2427) keeps a count of codewords with 1 bit error corrected, the bin 2 register (1.2428, 1.2429) keeps a count of codewords with 2 bits corrected, the bin 3 (1.2430, 1.2431) register keeps a count of codewords with 3 bits corrected, and the bin 4 (1.2432, 1.2433) register keeps a count of codewords with 4 or more bits corrected."

With:
"The bin 0 register (1.2424, 1.2425) keeps a count of codewords with no bit errors, the bin 1 register (1.2426, 1.2427) keeps a count of codewords with 1 bit error corrected, and the bin 2 register (1.2428, 1.2429) keeps a count of codewords with 2 bits corrected.

For the inner FEC defined in Clause 184, the bin 3 (1.2430, 1.2431) register keeps a count of codewords with 3 bits corrected, and the bin 4 register (1.2432, 1.2433) register keeps a count of codewords with 4 or more bits corrected.

The inner FEC defined in Clause 177 does not use the bin 4 register, for Clause 177 the bin 3 register keeps a count of codewords with 3 or more bits corrected."

Implement with editorial license.

Cl **45** *SC* **45.2.1.60c.1** *P* **82** *L* **21** # 582

Nicholl, Shawn AMD

Comment Type **ER** *Comment Status* **D** *(Logic) (bucket2)*

Currently, 45.2.1.60c.1 contains the information for 1.74.0 register while 45.2.1.60c.2 contains the information for 1.74.1 register.

The MDIO register definitions sections are typically ordered from bit <n> to bit 0.

SuggestedRemedy

Propose the following text:

45.2.1.60c.1 should contain the information for 1.74.1 register. 45.2.1.60c.2 should contain the information for 1.74.0 register.

In other words, it should read as follows:

45.2.1.60c.1 800GBASE-ER1 ability (1.74.1)

When read as a one, bit 1.74.1 indicates ... as a 800GBASE-ER1 PMA/PMD type. When read as a zero, bit 1.74.1 indicates ... as a 800GBASE-ER1 PMA/PMD type.

45.2.1.60c.2 800GBASE-ER1-20 ability (1.74.0)

When read as a one, bit 1.74.0 indicates ... as a 800GBASE-ER1-20 PMA/PMD type. When read as a zero, bit 1.74.0 ... as a 800GBASE-ER1-20 PMA/PMD type.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Reorder 45.2.1.60c.1 and 45.2.1.60c.2 so that bit 1 is the first and bit 0 the second subclause, as suggested with editorial license.

Cl **179B** *SC* **179B.4.2** *P* **826** *L* **10** # 603

Kocsis, Sam Amphenol

Comment Type **TR** *Comment Status* **D** *ference impedance (bucket2)*

There is no documented procedure for adjusting the reference reference impedance for an ERL computation, though one exists in the COM code.

SuggestedRemedy

Add details to this Annex to document the procedure and provide a reference for other places where an ERL computation requires a reference impedance other than 100-ohm.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #235.

Cl **176D** *SC* **176D.7.2** *P* **748** *L* **45** # 655

Swenson, Norman Nokia, Point2

Comment Type **ER** *Comment Status* **D** *'ectrical) C2M COM (bucket2)*

"COM calculation, as defined in 178A.1, is also used for calibration of noise in the interference
tolerance test (see 176D.8.12)." What is the meaning of "also", that is, in addition to what? It is not clear, as no other purpose was mentioned here.

SuggestedRemedy

Clarify (This may be the purpose of the note on p. 749, line 9. If that is the case, I believe the text of the note belongs in the main text as a sentence leading into the sentence in question.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
As noted in the first paragraph of 176D.7.2, the COM _model_ "defines the assumed capabilities of the transmitter and receiver functions of the C2M components". Separately from that, COM calculation (which uses the model, but is not the model) is used for calibration <...>., as noted in the second paragraph.

Move the quoted sentence from the first paragraph to the beginning of the second paragraph, omitting the word "also".
Implement with editorial license.

Cl **179A** *SC* **179A.5** *P* **821** *L* **4** # 658

Swenson, Norman Nokia, Point2

Comment Type **TR** *Comment Status* **D** *'ical) CR test fixture (bucket2)*

What is the extra rectangle labeled Paddle/Wire Termination shown in Fig. 179A-2 that is not shown in the mated test fixtures in Fig 179A-1? It is not explained in the text.

SuggestedRemedy

Clarify

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The rectangle and labels "Paddle/Wire Termination" serve as demarcation of the cable assembly and the host channel, in Figures 179A-1, 2, and 3. The "Paddle" and "Wire Termination" are structures associated with the cable assembly, and are not necessarily present in an HCB (or Mated Test Fixture). The labels are used to identify specific structures that are not documented elsewhere in the figure.

These figures provide illustration as appropriate within an informative Annex. Similar figures with the same features are included in in Annex 162A, added by IEEE Std 802.3ck.

The suggested remedy does not contain sufficient detail for the CRG to discuss a specific change.

Cl **116** *SC* **116.3.2** *P* **156** *L* **14** # 671

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **D** *(Common) (bucket2)*

Now that we are used to these generic primitives, the IS_ is redundant

SuggestedRemedy

Remove it, so that we have e.g. PMA:UNITDATA_i.request. This may need a maintenance request.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The "IS_" prefix on these primitives is consistent with multiple generations of PHY types. Within this project it is not possible to change this for 200G, 400G, or 800G Ethernet. Making changes for 1.6T would make the naming inconsistent and would therefore cause more problems than it solves.

Cl **116** *SC* **116.3.3.3.1** *P* **161** *L* **16** # 673

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D** *(Common) (bucket2)*

communication *with* ... lower sublayer

SuggestedRemedy

I think this means from, not with. Needs clarification.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

For the cases where ILT is supported by the sublayer(s), the value OK indicates that two-way communication with the other sublayer is established. Thus "with" is appropriate.

Note that the resolved comment #165 separates the definitions for the case where a sublayer participates in ILT and a sublayer does not participate in ILT, which will result in improved clarity for the referenced text.

While implementing the resolution to comment #165, clarify the wording cited in this comment (#673), as appropriate.

Cl **169** *SC* **169.2.4a** *P* **189** *L* **47** # 679

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **D** *(Common) (bucket2)*

The 800 Gb/s Attachment Unit Interface (800GAUI-n) ... . *The* 800GAUI-n is defined for chip-to-chip (C2C) and chip-to-module (C2M) implementations.
The 800GAUI-n C2C *is* specified in Annex 120F and Annex 176C.
The 800GAUI-n C2M *is* specified in Annex 120G and Annex 176D.

SuggestedRemedy

An 800 Gb/s Attachment Unit Interface (800GAUI-n) ... . 800GAUI-n is defined for chip-to-chip (C2C) and chip-to-module (C2M) implementations.
Two types of 800GAUI-n C2C are specified, in Annex 120F and Annex 176C.
Two types of 800GAUI-n C2M are

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change:
The 800 Gb/s Attachment Unit Interface (800GAUI-n) provides an electrical interface within an 800GBASE-R PHY or 800GMII Extender. The 800GAUI-n is defined for chip-to-chip (C2C) and chip-to- module (C2M) implementations.
To:
An 800 Gb/s Attachment Unit Interface (800GAUI-n) provides an electrical interface within an 800GBASE-R PHY or 800GMII Extender. 800GAUI-n are defined for chip-to-chip (C2C) and chip-to-module (C2M) implementations.

Change
"The 800GAUI-n C2C is specified in Annex 120F and Annex 176C.
The 800GAUI-n C2M is specified in Annex 120G and Annex 176D."
To:
"The 800GAUI-8 C2C is specified in Annex 120F.
The 80GAUI-8 C2M is specified in Annex 120G.
The 800GAUI-4 C2C is specified in Annex 176C.
The 800GAUI-4 C2M is specified in Annex 176D."

Cl **169** *SC* **169.3.2** *P* **191** *L* **17** # 682

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **D** *(Common) (bucket2)*

missing commas: the PHY 800GXS above isn't called the PMA service interface

SuggestedRemedy

Insert comma

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolved comment #168 replaces "Inner FEC or Segmented FEC" with "FEC sublayer (see 169.2.4b)"

change:
for primitives issued on the interface between the Inner FEC or Segmented FEC, and the PMA, PCS, or PHY 800GXS above called the FEC service interface
to:
for primitives issued on the interface between the FEC sublayer (see 169.2.4b), and the PMA, PCS, or PHY 800GXS above, which is called the FEC service interface

Implement with editorial license.

Cl **170** *SC* **170.1** *P* **202** *L* **12** # 683

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **D** *(Logic) (bucket2)*

This clause defines the characteristics of the Reconciliation Sublayer (RS) ... *The* RS, characteristics

SuggestedRemedy

the behavior of the 800 Gb/s Reconciliation Sublayer (RS) for
800 Gb/s and 1.6 Tb/s

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The term "characteristics" is consistent with language used in similar clauses, such as 81, 106, and 117. The comment is referring to text unmodified from 802.3df-2024. This clause is only being amended to add support for 1.6TbE. The text is correct as written.

Cl **170** *SC* **170.4.3** *P* **207** *L* **7** # 684

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

There should be major options for MAC rate, as in 81.5.2.3 and 171.9.3

SuggestedRemedy

Split this item into two

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The current approach in 170.1 (800GbE and 1.6TbE) is consistent with subclause 117.5.3 (200GbE and 400GbE) as well as the updates to 171.9.3 (800GbE and 1.6TbE). The comment points out that 81.5.2.3 also defines two additional major options for the different MAC rates (40GbE and 100GbE) in a slightly different format, but an updated format was used for Clause 117 which is now being carried forward for PICS in Clasue 170 and 171.

Cl **171** *SC* **171.3.3** *P* **216** *L* **2** # 686

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **D** *(Logic) (bucket2)*

average data rate on the 800GMII - there are two 800GMIIs. Similarly in 171.3.3a

SuggestedRemedy

the average data rate across the 800GMII in the PHY 800GXS
Similarly in 171.3.3

Proposed Response *Response Status* **W**

PROPOSED REJECT.
It is evident from the fact that this note is in subclause 171.3.3 (with the title "Service interface below the PHY 800GXS") that it is referring to the 800GMII below the PHY 800GXS and not the 800GMII below the RS. The same applies to the note in subclause 171.3.3a (with the title "Service interface below PHY 1.6TXS"), which applies to the 1.6TMII below the PHY 1.6TXS.

Cl **173** *SC* **173.1.1** *P* **244** *L* **18** # 689

Dawe, Piers
Nvidia

Comment Type **E** *Comment Status* **D** *(Logic) (bucket2)*

forms

SuggestedRemedy

types

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

In 173.1.1, change the sentence on page 244 line 18
From: "This clause specifies forms of the Physical Medium Attachment (PMA) sublayer that uses bit-multiplexing for 800GBASE-R Physical Layer implementations."
To: "This clause specifies the Physical Medium Attachment (PMA) sublayer types that use bit-multiplexing for 800GBASE-R Physical Layer implementations."

In 120.1.1, change line 19 on page 183
From: "This clause specifies forms of the Physical Medium Attachment (PMA) sublayer that use bit-multiplexing for 200GBASE-R and 400GBASE-R Physical Layer implementations."
To: "This clause specifies the Physical Medium Attachment (PMA) sublayer types that use bit-multiplexing for 200GBASE-R and 400GBASE-R Physical Layer implementations."

Cl **173** *SC* **173.1.1a** *P* **244** *L* **35** # 690

Dawe, Piers
Nvidia

Comment Type **T** *Comment Status* **D** *(Logic) (bucket2)*

supports

SuggestedRemedy

connects to

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The text referred to in the comment is consistent with text in 120.1.1 and is correct as written.

Cl **174** *SC* **174.2.1** *P* **248** *L* **51** # 692

Dawe, Piers
Nvidia

Comment Type **TR** *Comment Status* **D** *(Common) (bucket2)*

physically instantiated

SuggestedRemedy

exposed

Proposed Response *Response Status* **W**

PROPOSED REJECT.
For data rates 40 Gb/s and higher, the term "physically instantiated" is used consistently within 802.3 to describe interfaces that are exposed and measurable.
As an example, in 120.5.3 "The limits for Skew and Skew Variation at physically instantiated interfaces are specified at Skew points …"

Cl **176** *SC* **176.1.1** *P* **288** *L* **18** # 695

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **D** *(Logic) (bucket2)*

Three types of the - delte the, as in 173

SuggestedRemedy

Delete the, as in 173

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

In 176.1.1, change text
From:
"Within this clause, the term PMA refers specifically to the SM-PMA.
Three types of the 200GBASE-R SM-PMA are defined in this clause: 8:1 PMA, 1:8 PMA, and 1:1 PMA.
Three types of the 400GBASE-R SM-PMA are defined in this clause: 16:2 PMA, 2:16 PMA, and 2:2 PMA.
Three types of the 800GBASE-R SM-PMA are defined in this clause: 32:4 PMA, 4:32 PMA, and 4:4 PMA.
Four types of the 1.6TBASE-R SM-PMA are defined in this clause: 16:8 PMA, 8:16 PMA, 8:8 PMA, and 16:16 PMA."
To:
"Within this clause, the term PMA refers specifically to an SM-PMA.
Three types of 200GBASE-R SM-PMA are defined in this clause: 8:1 PMA, 1:8 PMA, and 1:1 PMA.
Three types of 400GBASE-R SM-PMA are defined in this clause: 16:2 PMA, 2:16 PMA, and 2:2 PMA.
Three types of 800GBASE-R SM-PMA are defined in this clause: 32:4 PMA, 4:32 PMA, and 4:4 PMA.
Four types of 1.6TBASE-R SM-PMA are defined in this clause: 16:8 PMA, 8:16 PMA, 8:8 PMA, and 16:16 PMA."

In 173.1.1, make a similar change,
From:
"Within this clause the term PMA refers specifically to the BM-PMA.
Three types of the 800GBASE-R BM-PMA are defined: 32:8 PMA, 8:32 PMA, and 8:8 PMA."
To:
"Within this clause the term PMA refers specifically to a BM-PMA.
Three types of 800GBASE-R BM-PMA are defined: 32:8 PMA, 8:32 PMA, and 8:8 PMA."

Implement with editorial license.

Cl **177** *SC* **177.4.5** *P* **333** *L* **25** # 701

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D** *(Logic) (bucket2)*

MSB

SuggestedRemedy

Define

Proposed Response *Response Status* **W**

PROPOSED REJECT.

MSB is defined in 1.5 and is used across the document. Although Galois field arithmetic has no mathematical MSB or LSB, they must be defined to ensure a correct implementation. For example, the order of the bits (MSB first or LSB first) impacts the syndrome calculation when implemeted as a shift register.

Cl **116** *SC* **116.1.4** *P* **148** *L* **10** # 729

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **D** *(Common) (bucket2)*

There must be a BM PMA below any SM PMA

SuggestedRemedy

Move 176 and 176C to between 119 and 120. Also in 116-3a 4 and 5.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This table is not a layer diagram, but rather as stated in the Table title it is a correlation between PHY types and clauses. It is therefore relevant to order the clauses by clause number rather than a particular subjective rule. There are many subjective ways that this table might be arranged other than that proposed by the commenter.

Cl **116** *SC* **116.2.9** *P* **155** *L* **35** # 731

Dawe, Piers
Nvidia

Comment Type **TR** *Comment Status* **D** *(Common) (bucket2)*

If IS stands for inter-sublayer (116.3) and and ISL for inter-sublayer link (178B), this would be ISLT. However, the "IS_" in the primitives has outlived its usefulness and should be removed, and optical PHYs do not have what one would recognise as training, even if there is a start-up protocol that uses training frames.

SuggestedRemedy

Find a better name for this, such as ISS (inter-sublayer startup), or remove 178B.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The acronyms ISL and ILT were chosen based a great deal of task force discussion and compromise. However, recent discussions have indicated some concern with the clarity of the naming and descriptions. Further work on this is necessary.

ILT is a mandatory feature for many PMD types so removing Annex 178B would not be an appropriate way to resolve the concern expressed in the comment regarding naming.

There is no consensus to make the proposed change at this time.