Cl **178B** *SC* **178B.8.3.5** *P* **893** *L* **30** # 5

Lusted, Kent — Synopsys

Comment Type **T** *Comment Status* **D** *(bucket) (CA)*

In the RX_READY box of Figure 178B-10, the assignment of tx_disable is incorrect. The current text is "tx_disable <= local_rts" and should be "tx_disable <= !local_rts".

The resolution to D2.2 comment #222 contains "Implement the proposed changes on slide 19 of brown_3dj_03b_2511" in which the text for the RX_READY box is "tx_disable <= !local_rts".

SuggestedRemedy

In the RX_READY box of Figure 178B-10 change "tx_disable <= local_rts" to "tx_disable <= !local_rts".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **177** *SC* **177.4.5** *P* **360** *L* **33** # 6

Bruckman, Leon — Nvidia

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

Text: "The addition operation inside the matrix multiplication is an XOR operation." is not clear where is the matrix multiplication ? Needs a reference to an equation

SuggestedRemedy

Change: "The addition operation inside the matrix multiplication is an XOR operation."
To: "The addition operation in Equation 177-3 is a XOR operation."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The suggested remedy to add a reference to Equation 177-3 is incorrect. The sentence which comes immediately after Equation 177-1 states: "The addition operation inside the matrix multiplication is an XOR operation". It was added in response to comment #196 against D2.2 and refers to the "dot multiplication" operation inside the matrix multiplication in Equation 177-1 and Equation 177-5. However, this sentence could be reworded to make this clearer.

Change:
"The addition operation inside the matrix multiplication is an XOR operation."

To:
"The matrix dot multiplication in these equations includes an XOR operation as the addition step."

Cl **45** *SC* **45.2.1.269** *P* **121** *L* **8** # 22

Huber, Thomas — Nokia

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

In table 45-212r, the name of bit 1.2733.15 was changed from Lane 31 to Lane 27, but it should still be Lane 31.

SuggestedRemedy

Change the name back to "Lane 31 aligned."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **116** *SC* **116.3.2** *P* **171** *L* **40** # 23

Huber, Thomas — Nokia

Comment Type **ER** *Comment Status* **D** *(bucket) (CG)*

The text of item b) was changed, replacing "DTE 200GXS, DTE 400GXS" with "DTE 800GXS".

SuggestedRemedy

Since this clause is about 200G and 400G PHYs, the change should be reverted. Change "DTE 800GXS" back to "DTE 200GXS, DTE 400GXS"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178.9.2.5** *P* **393** *L* **27** # 24

Huber, Thomas — Nokia

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

"different linear fit pulse peak ratio" should be "difference…"

SuggestedRemedy

Change "different" to "difference"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **182** *SC* **182.5.2** *P* **538** *L* **17** # 30

Huber, Thomas Nokia

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

"ISL training function" should be "ILT function"

SuggestedRemedy

Change "ISL training function" to "ILT function"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **183** *SC* **183.5.2** *P* **569** *L* **15** # 31

Huber, Thomas Nokia

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

"ISL training function" should be "ILT function"

SuggestedRemedy

Change "ISL training function" to "ILT function"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **73A** *SC* **73A** *P* **724** *L* **24** # 32

Huber, Thomas Nokia

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

"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" is ambiguous and verbose. The intent seems to be that the highest-numbered class to which a PMD is compliant is what is advertised, so the text should simply say that.

SuggestedRemedy

Change
"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"
to
"If the PMD is compliant to more than one host class, it shall indicate the highest-numbered class to which it complies."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The intent of these bits is to enable indication of host class, but this indication is optional. The suggested remedy would change a recommendation ("should") to a normative requirement ("shall") and remove the optionality of this indication. The suggested remedy refers to “highest-numbered class”, but the classes are not numbered.

The referenced text is correct as written, but could be modified to be more clear. This topic can be reconsidered in SA ballot and the commenter is encouraged to resubmit at that time.

Cl **176C** *SC* **176C.6.3.6** *P* **801** *L* **25** # 33

Huber, Thomas Nokia

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

"different linear fit pulse peak ratio" should be "difference…"

SuggestedRemedy

Change "different" to "difference"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178** *SC* **178.9.3.4.2** *P* **398** *L* **33** # 43

Brown, Matt — Alphawave Semi

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

The jitter parameter defined in 179.9.4.7.2 is JH4u, not J4Hu.

SuggestedRemedy

Change "J4Hu" to "JH4u" in 6 places.
178: page 398, line 33/35
176C: page 802 line 3, page 807 line 27/29

Proposed Response *Response Status* **W**

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

Cl **178** *SC* **178.9.2.3** *P* **392** *L* **38** # 47

Brown, Matt — Alphawave Semi

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

The specification is for transmitter ERL.

SuggestedRemedy

Change "receiver package class" to "transmitter package class".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

However, it points out an obvious editorial error that is worth fixing.

Implement the suggested remedy.

Cl **176D** *SC* **176D.8.12** *P* **833** *L* **21** # 48

Brown, Matt — Alphawave Semi

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

BER should be BER_max to align with similar tables elsewhere and with Annex 174A.9.5, 174A.9.6, etc.

SuggestedRemedy

Change "BER" to "BER_max".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

However, it points out an obvious editorial error that is worth fixing.

Implement the suggested remedy.

Cl **180** *SC* **180.9.1** *P* **477** *L* **38** # 53

Rodes, Roberto — Coherent

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

make TDECQ CER name consistent with the other tables in the clause

SuggestedRemedy

make TDECQ CER naming consistent in table 180-14 and table 180-7

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license.

Cl **178** *SC* **178.9.2.6** *P* **394** *L* **2** # 56

Healey, Adam — Broadcom, Inc.

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

VCM_FB is defined to be "the full-band peak-to-peak AC common-mode voltage defined by the method specified in 179.9.4.2". 179.9.4.2 defines "Transmitter output equalization".

SuggestedRemedy

Change the reference from 179.9.4.2 to 176D.8.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

However, it points out an obvious editorial error that is worth fixing.

Implement the suggested remedy.

Cl **176D** *SC* **176D.8.8** *P* **832** *L* **8** # 59

Healey, Adam — Broadcom, Inc.

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

The first letter in the subclause heading should be capitalized.

SuggestedRemedy

Change the subclause heading to "Signal-to-noise-and-distortion ratio".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

However, it points out an obvious editorial error that is worth fixing.

Implement the suggested remedy.

Cl **181** *SC* **181.9.6** *P* **518** *L* **45** # 81

Ran, Adee — Cisco Systems

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

TDECQ is defined based on 180.9.6, without the subclauses .2 - .4 (which leaves only one subclause 181.9.6.1).
The test setup for FR/LR is likely different than that of DR (based on Figure 122-4 having an "optical filter" block that Figure 121-4 does not have).

Similarly in 182.9.6 and 183.9.6.

SuggestedRemedy

Create 181.9.6.1 through 181.9.6.4, with titles of the corresponding subclauses in clause 180. For 181.9.6.1, add a diagram with an optical filter (and any other differences). For 181.9.6.2, use the content of the existing 181.9.6.1. For other subclauses, point to the corresponding subclauses in clause 180.

Make similar changes in corresponding subclauses of clauses 182 and 183 with references to the appropriate figures. Implement with editorial license.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

Adding a diagram with an optical filter does clarify the differences in the test setup. However, there is no need to repeat the full method with the four subclauses.

It is implict that a WDM DeMux is required to separate the lanes in testing. Adding a new diagram would be be helpful but is not necessary to address this comment at this time. The commenter is encouraged to resubmit in SA ballot.

Cl **182** *SC* **182.9.2** *P* **549** *L* **25** # 82

Ran, Adee Cisco Systems

Comment Type **E** *Comment Status* **D** *exception list (bucket) (O)*

The reference receiver is defined by reference to 180.9.2 with a single exception which is almost the whole definition.

SuggestedRemedy

Define the reference receiver using text as in the fist patagraph of 180.9.2. Refer to 180.9.2 for the CRU and the block diagram.
Implement with editorial license.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

The suggested change is a potential editorial improvement, but is not required at this time. This topic can be reconsidered in SA ballot and the commenter is encouraged to resubmit at that time.

Cl **183** *SC* **183.9.2** *P* **582** *L* **35** # 84

Ran, Adee Cisco Systems

Comment Type **E** *Comment Status* **D** *exception list (bucket) (O)*

The reference receiver is defined by reference to 180.9.2 with a single exception which is almost the whole definition.

SuggestedRemedy

Define the reference receiver using text as in the fist patagraph of 180.9.2. Refer to 180.9.2 for the CRU and the block diagram.
Implement with editorial license.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

The suggested change is a potential editorial improvement, but is not required at this time. This topic can be reconsidered in SA ballot and the commenter is encouraged to resubmit at that time.

Cl **176** *SC* **176.4.2.2** *P* **322** *L* **27** # 90

Ran, Adee Cisco Systems

Comment Type **E** *Comment Status* **D** *exception list (bucket) (L)*

A single exception does not require a list (there are many such exceptions in the draft without a list).

SuggestedRemedy

Merge the list into the preceding paragraph, with editorial license.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.
The suggested change is a potential editorial improvement, but is not required at this time. This topic can be reconsidered in SA ballot and the commenter is encouraged to resubmit at that time.

Cl **176** *SC* **176.4.4.2** *P* **332** *L* **35** # 91

Ran, Adee
Cisco Systems

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

The subclause text includes a dashed list with one item, and then a paragraph with multiple statements regarding different PMAs, which would be more readable as a table or a list.

The suggested remedy is one way of improving this text, using a table. Other ways may be considered.

SuggestedRemedy

Use the following content, with editorial license:
The 200GBASE-R 8:1, 400GBASE-R 16:2, 800GBASE-R 32:4, and 1.6TBASE-R 16:8 PMAs use the alignment marker lock state diagram from Clause 119 (Figure 119-12), with the definitions of variables in 176.4.4.2.1, functions in 176.4.4.2.2, and counters in 176.4.4.2.3. Table 176-<new> lists the locations of additional variable definitions and values, and the values of the index x, which denotes the PMA service interface lane number.

Add a new table 176-<new> with columns for PMA type, reference clause for variables, and the range of x.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

The text in this subclause is technically correct as written, but could be changed to improve readability.

This topic can be reconsidered in SA ballot and the commenter is encouraged to resubmit at that time.

Cl **179** *SC* **179.11.6.2.2** *P* **451** *L* **23** # 93

Ran, Adee
Cisco Systems

Comment Type **E** *Comment Status* **D** *exception list (bucket) (E)*

A single exception does not require a list (there are many such exceptions in the draft without a list).

SuggestedRemedy

Merge the list into the preceding paragraph, with editorial license.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

The suggested change is a potential editorial improvement, but is not required at this time. This topic can be reconsidered in SA ballot and the commenter is encouraged to resubmit at that time.

Cl **178** *SC* **178.9.3.5.2** *P* **399** *L* **45** # 95

Dudek, Mike
Marvell

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

Typically we say "measured at TP0v" not "measured at the TP0v"

SuggestedRemedy

Change to "measured at TP0v"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **178B** *SC* **178B.9** *P* **895** *L* **51** # 99

Dudek, Mike
Marvell

Comment Type **E** *Comment Status* **D** *(bucket) (CA)*

In this subsection "other interface" is used which is not well defined whereas in the rest of the section "adjacent interface" is used for the same interface and "adjacent interface is better defined

SuggestedRemedy

Replace "other interface" with "adjacent interface" throughout this subsection. (4 places).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

But it is a good proposed improvement, since in subclause 178B.6 the term "other interface" is used to indicate both: peer and adjacent interfaces. This may create some confusion.

Change: "In normal operation, a retimer passes the data received on one of its interfaces to the other interface using the clock recovered from the received data"
To: "In normal operation, a retimer passes the data received on one of its interfaces to the other (adjacent) interface using the clock recovered from the received data"

Change the word "other" in the next three places in this subclause to "adjacent".

Implement with editorial license.

Cl **183** *SC* **183.9.15** *P* **587** *L* **25** # 100

Dudek, Mike
Marvell

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

Other optical clauses (e.g. clause 180, 181 and 182) provide precoding if the receiver requests it to improve receiver sensitivity and stressed receiver sensitivty.

SuggestedRemedy

Add "Precoding (see 176.7.1.2) is enabled if the receiver requests precoding using the ILT function." at line 25 and also on page 588 line 2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

However, the statement provided in the suggested remedy is provided clauses 180, 181, and 182, and is equally relevant to Clause 183. It appears to be an oversight.

Implement the suggested remedy with editorial license.

Cl **45** *SC* **2** *P* **109** *L* # 140

Fuller, Paul
Infineon

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

This might be extremely picky, but degrade and degraded is used almost interchangeably throughout the document. It seems like degraded is the appropriate usage?

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

The comment appears to be referring to subclauses 45.2.1.217.6c and 45.2.1.217.6d as an example of FEC degrade(d) used throughout the document. The terms "degrade" and "degraded" are used interchangably here and in other clauses throughout the draft. Changes would be pervasive and a more complete proposal and consensus building of the changes is needed.

This topic can be reconsidered in SA ballot and the commenter is encouraged to resubmit at that time.

Cl **73A** *SC* **73A.1a** *P* **723** *L* **40** # 147

Slavick, Jeff Broadcom

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

Message code 2 is known as the "Extended FEC and Technology Message code" not the "Technology Ability and FEC Extension" Message code.

SuggestedRemedy

Change "Technology Ability and FEC Extension" to "Extended FEC and Technology Ability" in the 2nd sentence

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

However, the comment points out a clear and obvious inconsistancy in the text which should be fixed.

Implement the suggested remedy with editorial license.

Cl **177** *SC* **177.5.5** *P* **366** *L* **20** # 148

Slavick, Jeff Broadcom

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

The statement that the counters are mapped to management variables is specified in 177.10 shouldn't be part of the definition of the corrected_cw_counter but rather a global statement in 177.5.5

SuggestedRemedy

Move "Mapping of counters to management variables is specified in 177.10." to be its own paragraph at the very end of 177.5.5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

The mapping of all counters to management variables is specified in 177.10, and does not need to be stated within the defintion of an individual counter.

Delete the sentence "Mapping of counters to management variables is specified in 177.10." from the definition of Inner_FEC_corrected_cw_counter.

Cl **184** *SC* **184.5.7** *P* **609** *L* **48** # 149

Slavick, Jeff Broadcom

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

Clause 177 normatively states that last error bin increments when more bits are changed than its value, while Clause 184 states it as a Note.

SuggestedRemedy

Change "Note that bin 4 is for 4 for more" to "Error bin 4 increments when 4 or more"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This comment does not apply to the substantive changes between IEEE P802.3dj D2.2 and D2.3 or the unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

The suggested remedy is a minor change that will make Clause 184 consistent with Clause 177.

In 177.5.5, the definition of the counter Inner_FEC_codeword_error_bin_k is worded as:
"A set of four 32-bit counters where k = 0 to 3. [some text removed]. Error bin 3 increments when three or more bits are corrected in an Inner FEC codeword."

In 184.5.7, the definition of the counter Inner_FEC_codeword_error_bin_k is worded as:
"A set of five 32-bit counters where k = 0 to 4. [some text removed]. Note that bin 4 is for 4 or more bits corrected in an Inner FEC codeword."

In 184.5.7, change the last sentence of the definition of Inner_FEC_codeword_error_bin_k
From:
"Note that bin 4 is for 4 or more bits corrected in an Inner FEC codeword."
To:
"Error bin 4 increments when four or more bits are corrected in an Inner FEC codeword."