

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

CI 168 SC 168.5.1 P30 L8 # 1

Ran, Adee Cisco Systems, Inc.

Comment Type TR Comment Status X D2.0 unresolved

The title of 168.5.1 is "PMD block diagram", but the block diagram in Figure 168-2 is not of a PMD but of a transmit/receive path.

I am aware that the incorrect heading exists in many previous clauses, but an error should not be carried over to a new clause.

The suggested remedy is being used in similar subclauses in P802.3dj.

SuggestedRemedy

Change the subclause title from "PMD block diagram" to "Block diagram".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 168 SC 168.6 P32 L53 # 2

Ran, Adee Cisco Systems, Inc.

Comment Type T Comment Status X D2.0 unresolved

Footnote a says "The RS-FEC correction function may not be bypassed for any operating distance". This is not an option, so "may" is inappropriate. Also, this statement is out of place in 168.6, which is about optical specifications.

I am aware that the same text exists in many previous clauses, but an error should not be carried over to a new clause.

SuggestedRemedy

Delete footnote a from Table 168-5, and instead add a footnote for the "RS-FEC" row in Table 168-1, stating "The option to perform error detection without error correction (see 91.5.3.3) is not supported. FEC error correction shall not be bypassed".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Delete footnote a from Table 168-5.

Keep consistent with clause 140.

CI 168 SC 168.6.1 P33 L11 # 3

Ran, Adee Cisco Systems, Inc.

Comment Type TR Comment Status X D2.0 unresolved

The signaling range for recent PMDs with 100 Gb/s per lane has been narrowed to +/- 50 ppm, to avoid possible performance degradatation.

The 100 Gb/s AUIs defined in Annex 120F and 120G support this narrower range.

See 800GBASE-VR8/SR8 PMDs in 802.3df, Table 167-7 and Table 167-8 (both amended from 802.3db) as an example of how this is implemented in new PMDs.

SuggestedRemedy

In Table 168-6 and Table 168-7, change the signaling rate range to 53.125 +/- 50 ppm.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Clause 140 uses 100ppm, df has mixed definitions, dj uses 50ppm.

CI 168 SC 168.6.1 P33 L28 # 4

Ran, Adee Cisco Systems, Inc.

Comment Type ER Comment Status X D2.0 unresolved

The row for OMA<sub>outer</sub> (min) in Table 167-7 contains two sub-rows. This should be indicated by indentation, as done in the "Receiver sensitivity" row in Table 167-8, to clarify that these are two cases.

The phrase "for 1.4 dB <= max(TECQ, TDECQ) <= TDECQ(max)" is overly long and can be shortened to improve readability.

SuggestedRemedy

Indent the sub-rows starting with "for".

Change "for 1.4 dB <= max(TECQ, TDECQ) <= TDECQ(max)" to "for max(TECQ, TDECQ) >= 1.4"

Proposed Response Response Status W

PROPOSED REJECT.

Following dj format (e.g., Table 183-6).

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CI 168 SC 168.6.1 P34 L1 # 5

Ran, Adeo Cisco Systems, Inc.

Comment Type T Comment Status X D2.0 unresolved

Equations 168-1 through 168-3 are not equations - they are expressions that don't mean anything without the context, which is Table 167-7.

It would be a better service to the reader if these expressions are placed directly in the table.

*SuggestedRemedy*

Move these expressions into Table 168-8, OMA\_outer row, replacing the references to the equations.

*Proposed Response* Response Status W

PROPOSED REJECT.  
Follow dj format, Table 183-6.

CI 168 SC 168.6.1 P33 L36 # 6

Ran, Adeo Cisco Systems, Inc.

Comment Type TR Comment Status X D2.0 unresolved

"Transmitter over/under -shoot" is shorthand that should not be used in a standard. The definitions in subclause 168.7.7 are actually to two different parameters, overshoot and undershoot, while "over/under-shoot" is not defined at all. The label in the table has been changed to "overshoot/undershoot" in 802.3db.

Also, the definition subclause 168.7.7 should be aligned with the recent text in 802.3db (167.8.8) instead of older clauses.

*SuggestedRemedy*

Change the label to "Overshoot/undershoot (max)".  
Change the text in 168.7.7 to align it with 167.8.8 in 802.3db-2022.  
Change in Table 168-10 and elsewhere accordingly.

*Proposed Response* Response Status W

PROPOSED ACCEPTED IN PRINCIPLE.  
See comment #26.

CI 168 SC 168.7.1 P36 L1 # 7

Ran, Adeo Cisco Systems, Inc.

Comment Type TR Comment Status X D2.0 unresolved

The title of Table 168-10 is incorrect. It does not include or even refer to test pattern definitions; what it contains is the mapping of parameters to test patterns and related subclause.

I am aware that the same title exists in many previous clauses, but an error should not be carried over to a new clause. It has been corrected in P802.3dj, and the suggested remedy is taken from Table 180-15.

*SuggestedRemedy*

Change the title of Table 168-10 to "Mapping of parameters to test patterns and related subclauses".

*Proposed Response* Response Status W

PROPOSED ACCEPT.  
Keep consistent with 802.3 dj, Table 183-13.

CI 168 SC 168.7.11 P41 L3 # 8

Ran, Adeo Cisco Systems, Inc.

Comment Type T Comment Status X D2.0 unresolved

The signaling rate is 53.125 GBd, so the number should be 53.125 GHz, not 53.2.

*SuggestedRemedy*

Change per comment.

*Proposed Response* Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Resolve using the response to comment #25.

CI 168 SC 168.7.12 P41 L32 # 9

Ran, Adeo Cisco Systems, Inc.

Comment Type E Comment Status X D2.0 unresolved

Cross-reference to equation 168-4 is not active. Similarly for equations 168-5 and 168-6 in the subsequent paragraphs.

*SuggestedRemedy*

Make the cross-references active.

*Proposed Response* Response Status W

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

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

CI 168 SC 168.7.12 P41 L40 # 10

Ran, Adeel Cisco Systems, Inc.

Comment Type TR Comment Status X D2.0 unresolved

Equations 168-4 through 168-5 have equal signs and define receiver sensitivity - but the receiver sensitivity does not need to be equal to a value - it should be below some maximum, as shown in the figure.

Suggested Remedy

Either change the equation to have a "lower than" value, or define the term as the maximum RS.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

CI 168 SC 168.7.12 P41 L7 # 11

Ran, Adeel Cisco Systems, Inc.

Comment Type ER Comment Status X D2.0 unresolved

Figure 168-6 is a bitmap with poor quality.

Suggested Remedy

Replace the figure with an SVG one.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

CI 168 SC 168.7.12 P41 L15 # 12

Ran, Adeel Cisco Systems, Inc.

Comment Type TR Comment Status X D2.0 unresolved

The label "Meets equation constraints" appears between curves. It suggests that the allowed range is between these lines, which is incorrect.

Suggested Remedy

Move the label below the bottom line.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

CI 168 SC 168.9 P45 L30 # 13

Maniloff, Eric Ciena

Comment Type T Comment Status X D2.0 unresolved

It appears that a statistical analysis is being used to arrive at the chromatic dispersion values, as documented in G.652 Appendix I. The document should clarify the approach used to arrive at the CD values. 802.3dj currently includes the following text: "The dispersion specifications are based on the statistical link design methodology documented in ITU-T REC G.652, Appendix I."

Suggested Remedy

Add a footnote to the CD values in Table 168-12 indicating the method used to calculate the dispersion values.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Add to footnote b:  
"The dispersion specifications are based on the statistical link design methodology documented in ITU-T REC G.652, Appendix I."

CI 168 SC 168.7.4 P36 L46 # 14

Johnson, John Broadcom

Comment Type TR Comment Status X D2.0 unresolved

Add text to clarify the reference receiver used to measure OMA<sub>outer</sub>, referring to the definitions in 168.7.5.

Suggested Remedy

Add the following sentence to the end of the paragraph:

"OMA<sub>outer</sub> is measured using waveforms captured at the output of the reference receiver defined in 168.7.5, before the reference equalizer."

Proposed Response Response Status W

PROPOSED ACCEPT.  
See comment #22.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

CI 168 SC 168.7.5 P37 L21 # 15

Johnson, John

Broadcom

Comment Type TR Comment Status X D2.0 unresolved

The TDECQ test method in 168.7.5 needlessly reiterates the definitions in 121.8.5. The text of 168.7.5.1 lists test method exceptions that should be in 168.7.5.3. 168.7.5.3 has a single exception for the FFE (which is not needed because it is the same as 121.8.5.4). This clause should reference 121.8.5 and list a complete set of test method exceptions specific to CI. 168.

SuggestedRemedy

Follow the specification method of 802.3dj D1.5, CI.180.9.5, which includes improved descriptions of the reference receiver that are used in other test method sub-clauses. Remove sub-clauses 168.7.5.1, 168.7.5.3 and 168.7.5.4. (168.7.5.2 becomes 168.7.5.1) Replace the text in 168.7.5 with the following:

The TDECQ of each lane shall be within the limits given in Table 168-6 if measured using the methods specified in 121.8.5.1, 121.8.5.3, 121.8.5.4 and 168.7.5.1, with the following exceptions:  
 — The signaling rate of the test pattern generator is as given in Table 168-6 and uses the test pattern specified for TDECQ in Table 168-10.  
 — The reference receiver, composed of the combination of the O/E converter and the oscilloscope, has a 3 dB bandwidth of approximately 26.5625 GHz with a fourth-order Bessel-Thomson response to at least  $1.3 \times 53.125$  GHz, and at frequencies above  $1.3 \times 53.125$  GHz, the response should not exceed -20 dB. Compensation may be made for any deviation from an ideal fourth-order Bessel-Thomson response.  
 — The normalized noise power density spectrum  $N(f)$  is equivalent to white noise filtered by a fourth order Bessel-Thomson response filter with a 3 dB bandwidth of 26.5625 GHz.  
 — The optical return loss is as given in Table 168-6.  
 — The lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibration.

Proposed Response Response Status W

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

CI 168 SC 168.7.7 P39 L37 # 16

Johnson, John

Broadcom

Comment Type TR Comment Status X D2.0 unresolved

Add text to clarify the reference receiver used to measure TX over/undershoot, referring to the definitions in 168.7.5.

SuggestedRemedy

Replace "but without the reference equalizer being applied in either case." with "at the output of the reference receiver defined in 168.7.5, before the reference equalizer."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 168 SC 168.7.8 P40 L17 # 17

Johnson, John

Broadcom

Comment Type TR Comment Status X D2.0 unresolved

Add text to clarify the reference receiver used to measure TX power excursion, referring to the definitions in 168.7.5.

SuggestedRemedy

Replace "but without the reference equalizer being applied." with "at the output of the reference receiver defined in 168.7.5, before the reference equalizer."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 168 SC 168.7.9 P40 L32 # 18

Johnson, John

Broadcom

Comment Type TR Comment Status X D2.0 unresolved

Add text to clarify the reference receiver used to measure extinction ratio, referring to the definitions in 168.7.5.

SuggestedRemedy

Add the following to the end of the paragraph:  
 "The extinction ratio is measured using waveforms captured at the output of the reference receiver defined in 168.7.5, before the reference equalizer."

Proposed Response Response Status W

PROPOSED ACCEPT.

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CI 168 SC 168.7.10 P40 L41 # 19

Johnson, John

Broadcom

Comment Type TR Comment Status X D2.0 unresolved

The reference receiver is previously defined in 168.7.5, so it can be referenced rather than redefining it in this clause.

*Suggested Remedy*

Delete the following text:

"as measured through an O/E converter and oscilloscope with a combined 3 dB bandwidth of approximately 26.5625 GHz with a fourth-order Bessel-Thomson response to at least  $1.3 \times 53.125$  GHz and at frequencies above  $1.3 \times 53.125$  GHz the response should not exceed -20 dB. Compensation may be made for any deviation from an ideal fourth-order Bessel-Thomson response."

Replace with the following text:

"The transmitter transition time is measured using waveforms captured at the output of the reference receiver defined in 168.7.5, before the reference equalizer."

Proposed Response

Response Status W

PROPOSED ACCEPT.

CI 168 SC 168.7.13 P42 L1 # 20

Johnson, John

Broadcom

Comment Type TR Comment Status D D2.0 unresolved

The stressed receiver sensitivity test method in 168.7.13 needlessly reiterates the test method specified in 121.8.10.

*Suggested Remedy*

Follow the specification method of 802.3dj D1.5, Cl.180.9.13, which points to 121.8.10 along with a short list of exceptions. Replace the entirety of 168.7.13 with the following text:

Stressed receiver sensitivity of each lane shall be within the limit given in Table 168-7 if measured using the method defined in 121.8.10 with the following exceptions:

— The SECQ of the stressed receiver conformance test signal is measured according to 168.7.5, except that the test fiber is not used. The transition time of the stressed receiver conformance test signal is

no greater than the value specified in Table 168-6.

— With the Gaussian noise generator on and the sinusoidal jitter and sinusoidal interferer turned off, the

RINxOMA of the SRS test source should be no greater than the value specified in Table 168-6.

— The signaling rate of the test pattern generator and the extinction ratio of the E/O converter are as

given in Table 168-6 using test patterns specified in Table 168-10.

— The required values of the "Stressed receiver sensitivity (OMA<sub>outer</sub>), each lane (max)", "Stressed eye closure for PAM4 (SECQ), lane under test" and "OMA<sub>outer</sub> of each aggressor lane" are as given in Table 168-7.

Proposed Response

Response Status W

PROPOSED ACCEPT.

CI 168 SC 168.7.12 P41 L32 # 21

Simms, William

NVIDIA

Comment Type E Comment Status X D2.0 unresolved

The Figure 168-6 has an x-axis of TECQ but the test below the figure references SECQ. Line 32, 35, and 38

*Suggested Remedy*

Not sure if this is an error

Proposed Response

Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

Cl 168 SC 168.7.4 P36 L41 # 22  
 Mi, Guangcan Huawei Technologies Co., Ltd  
 Comment Type **TR** Comment Status **X** D2.0 unresolved  
 recent clauses has been pointing out the source of OMAout data. Recommend to add in CL168 as well.  
 SuggestedRemedy  
 add "OMAouter is measured using waveforms captured at the output of the reference receiver defined in 168.7.5, before the reference equalizer.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Implement suggested remedy with editorial license.

Cl 168 SC 168.7.5 P37 L20 # 23  
 Mi, Guangcan Huawei Technologies Co., Ltd  
 Comment Type **ER** Comment Status **X** D2.0 unresolved  
 looking back at CL 140.7 and other IMDD clauses in 100Gbps, the description of TDECQ and its measurement setup has been referencing as much as possible the existing content in CL 121.8.5 and writing only the changes and differences. An example in CL140 is: "TDECQ, and for 100GBASE-DR only, TDECQ – 10log10(Ceq) shall be within the limits given in Table 140–6 if measured using the test setup specified in 121.8.5.1, with an optical channel specified in 140.7.5.2, using the measurement method specified in 121.8.5.3, and using a reference equalizer as described in 140.7.5.1, with the following exceptions: ....."  
 also double checking the content of 168.7.5.1, there seems no technical difference than what was defined in CL 140.7.5 or CL 124.8.5, except need of updates to the table references. For the sake of clarity and consistence, also avoiding misleading message of new test setp, it is recommended to update the section with references to existing clauses while only listing out the exceptions.  
 SuggestedRemedy  
 delet sections 168.7.5.1, 168.7.5.3, 168.7.5.4. make appropriate references to existing clauses, so that the overall standard of 802.3 is coherent. implement with editorial licenses.  
 some possible languages:  
 The TDECQ shall be within the limits given in Table 168–6 if measured using the test setup specified in 121.8.5.1, with an optical channel specified in 168.7.5.2, using the measurement method specified in 121.8.5.3, and using a reference equalizer as described in 168.7.5.1, with the following exceptions:  
 The signaling rate of the test pattern generator is as given in Table 168–6 and uses a test pattern specified for TDECQ in Table 168–10.  
 — The combination of the O/E converter and the oscilloscope has a 3 dB bandwidth of approximately 26.5625 GHz with a fourth-order Bessel-Thomson response to at least 1.3 × 53.125 GHz and at frequencies above 1.3 × 53.125 GHz the response should not exceed – 20 dB. Compensation may be made for any deviation from an ideal fourth-order Bessel-Thomson response.  
 — The normalized noise power density spectrum, N(f) in Equation (121–9), is equivalent to white noise filtered by a fourth-order Bessel-Thomson response filter with a 3 dB bandwidth of 26.5625 GHz."  
 or  
 "The TDECQ shall be within the limits given in Table 168–6 if measured using the test setup specified in 121.8.5.1, with an optical channel specified in 168.7.5.2, using the measurement method specified in 140.7.5, and using a reference equalizer as described in 140.7.5.1."  
 or other format that fits.

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Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Resolve using response to comment #15.

Cl 168 SC 168.7.7 P39 L31 # 24

Mi, Guangcan Huawei Technologies Co., Ltd

Comment Type **ER** Comment Status **X** D2.0 unresolved

There seems to be no change from the method defined in CL 140. reference to CL 140 regarding the calculation.

SuggestedRemedy

possible language from CL 151, and update the reference tables should serve the purpose :

"The over/under-shoot of each lane shall be within the limits given in Table 151–7 if measured using a test pattern specified for over/under-shoot in Table 151–11. Overshoot and undershoot are measured using the waveform captured for the TDECQ test (see 151.8.5) and the waveform captured for the TECQ test (see 151.8.6), but without the reference equalizer being applied in each case. Overshoot and undershoot are calculated using the methods in 140.7.7."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Resolve using response to comment #16.

Cl 168 SC 168.7.11 P40 L51 # 25

Mi, Guangcan Huawei Technologies Co., Ltd

Comment Type **TR** Comment Status **X** D2.0 unresolved

802.3 dj has extensively discussed the definition of RINxOMA. Consensus were made to update the definition of RINxOMA which better describes the actual behaviour and aligns with what is being used in the field. Related contribution from Ahmad and JJ, [https://www.ieee802.org/3/dj/public/24\\_09/chayeb\\_3dj\\_01\\_2409.pdf](https://www.ieee802.org/3/dj/public/24_09/chayeb_3dj_01_2409.pdf)

SuggestedRemedy

align to what is defined in dj.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
The RINxOMA definition in dj D1.5 could be used as references.  
Implement suggested remedy with editorial license.

Cl 168 SC 168.6.1 P33 L36 # 26

Stassar, Peter Huawei

Comment Type **ER** Comment Status **D** D2.0 unresolved

This draft still uses "over/undershoot", In P802.3dj it was recently agreed to use "transmitter over and undershoot". Also in 168.7.1 and 168.7.7

SuggestedRemedy

168.6.1 change "Transmitter over/under -shoot" to "Transmitter overshoot and undershoot". In 168.7.1, Table 168-10 change "Over/under-shoot" to "Transmitter overshoot and undershoot". Change heading of 168.7.7 from "Over/under-shoot" to "Transmitter overshoot and undershoot". In paragraphs 1 and 2 of 168.7.7 change "over/under-shoot" to "over and undershoot".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 168 SC 168.3.2 P29 L2 # 27

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **TR** Comment Status **X** D2.0 unresolved

"is" is for statements of fact. The limitation on the skew seems to be a requirement. Further, the requirements in 83.5.3.4 go further and specify skew variation. Is that to be specified? While 83.5.3.4 was mentioned earlier defining skew, it isn't clear that those requirements apply. Here is where that should be stated.

SuggestedRemedy

Change "Skew at SP2 is limited to 43 ns as defined by 83.5.3.4" to "Skew and skew variation at SP2 shall comply with the requirements of 83.5.3.4"

Proposed Response Response Status **W**

PROPOSED REJECT.  
Keep consistent with Clause 140.

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CI 168 SC 168.12.3 P49 L28 # 28  
 Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
 Comment Type T Comment Status X D2.0 unresolved

Delay constraints is a section of the PICS, not a capability or option. These are requirements that need to be spelled out in their own table.

**Suggested Remedy**

Delete row "DC" in 168.12.3, add new section 168.12.4.1 Delay and skew specifications and renumber subsequent PICS statements. Go through 168.3 and call out the delay constraint requirements one-by-one to populate (this is where having the "shalls" would have been useful).

Proposed Response Response Status W

PROPOSED REJECT.  
 Keep consistent with 802.3cp.

CI 168 SC 168.7.12 P41 L15 # 29  
 Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
 Comment Type T Comment Status X D2.0 unresolved

"Meets equation constraints" cannot possibly be right for all 3 PHYs. Also, the plot says it is receiver sensitivity but the axis says OMAouter(dBm). This needs further definition in the equations 168-4, 168-5, and 168-6 and the text to unravel. Is this saying that the RS should be sensitive to a signal with an OMA of the level of equations 168-4, 168-5, and 168-6 (depending on the PHY type) (but can be sensitive to a lower level signal)? If so, the label needs to be 3 different labels, each indicating which line they are for, and on the bottom side of the line... The equations need more words to describe the measurement. I'm sorry, but I don't know well enough what you meant to write a good solution.

**Suggested Remedy**

See comment. Adjust location of "Meets equation constraints" so that it meets all 3 lines. Consider more explanatory words and converting the equations 168-4, 168-5 and 168-6 to inequalities.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Follow treatment in 802.3dj CL183.9.12.  
 Implement suggested remedy with editorial license.

CI 168 SC 168.1 P27 L13 # 30  
 Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
 Comment Type T Comment Status X D2.0 unresolved

Physical implementation of the CGMII is optional, but that is not what Figure 168-1 shows.

**Suggested Remedy**

Add footnote 1 to CGMII at line 13. Add text of "NOTE - Physical implementation of CGMII is optional" at line 29 (below PCS).

Proposed Response Response Status W

PROPOSED REJECT.  
 Keep consistent with Clause 140.  
 See footnote a in Table 140-1.

CI 168 SC 168.5.9 P32 L21 # 31  
 Huber, Thomas Nokia  
 Comment Type E Comment Status X D2.0 unresolved

The first sentence of this clause is a comma splice.

**Suggested Remedy**

Replace the comma with a semicolon, split into two separate sentences for the U and D PMDs, or write it as "The PMD\_receive\_fault function is mandatory in the 100GBASE-BRx-U PMD and optional in the 100GBASE-BRx-D PMD".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Change it to:  
 The 100GBASE-BRx-U PMD shall include the PMD\_receive\_fault function. In the 100GBASE-BRx-D PMD, the PMD\_receive\_fault function is optional.



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Cl 168 SC 168.6 P32 L40 # 32

Huber, Thomas

Nokia

Comment Type T Comment Status X D2.0 unresolved

The sentence concerning BR40 working with BR20 or BR10 as long as the shorter reach channel requirements are met is helpful, but it seems incomplete. Would it also not be true that the BR20 PMD operates with a BR10 PMD as long as the channel requirements of the BR10 PMD are met?

SuggestedRemedy

Make the sentence more generic: "A longer reach PMD interoperates with a shorter reach PMD as long as the channel requirements of the shorter reach PMD are met."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The interoperation between BR10 and BR40 doesn't work.

Change it as:

"The 100GBASE-BR40 PMD interoperates with the 100GBASE-BR20 PMD provided that the channel meets the requirements in Table 168-15."

Cl 168 SC 168.1 P27 L9 # 33

Dawe, Piers

Nvidia

Comment Type E Comment Status X D2.0 unresolved

In 157, this figure includes OAM (OPTIONAL)

SuggestedRemedy

Do the same here?

Proposed Response Response Status W

PROPOSED REJECT.

Keep consistent with existing clauses 140 and 160.

Cl 168 SC 168.5.1 P30 L39 # 34

Dawe, Piers

Nvidia

Comment Type E Comment Status X D2.0 unresolved

This says "TP1 and TP4 ... (these test points are not typically be accessible in an implemented system)" but this is outdated. Clause 167 (100G/lane VR and SR says "might not be accessible". Linear optical modules are feasible at 100G/lane now, at least for DR. Grammar: "are not typically be"

SuggestedRemedy

Change "are not typically be" to "might not be"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See comment #57.

Cl 168 SC 168.5.4 P31 L25 # 35

Dawe, Piers

Nvidia

Comment Type T Comment Status X D2.0 unresolved

While the status variables have "global" in their names so that 1-lane PHYs can be managed the same as multilane PHYs, saying that SIGNAL\_DETECT is a \*global\* indicator of the presence of the optical signal isn't really right.

SuggestedRemedy

Delete "global" here and in PICS F10

Proposed Response Response Status W

PROPOSED REJECT.

Keep consistent with clause 140.

Cl 168 SC 168.6.1 P33 L46 # 36

Dawe, Piers

Nvidia

Comment Type T Comment Status X D2.0 unresolved

It's probably not worth testing some transmitters for TDECQ and RIN with 15 dB return loss and others with 15.6 dB. The cost in paperwork may outweigh any difference in yield.

SuggestedRemedy

Consider changing 15.6 to 15 here and in Table 168-11 (simplifying and being conservative).

Then RINxOMA can become RIN15OMA.

If it is thought worthwhile, the discrete reflectances for 100GBASE-BR10 in Table 168-14 and the channel optical return loss in Table 168-12 could be made slightly worse, to spend that 0.6 dB.

Proposed Response Response Status W

PROPOSED REJECT.

Small difference exists in other clauses, such as clause 140.

Cl 168 SC 168.6.3 P35 L14 # 37

Dawe, Piers

Nvidia

Comment Type T Comment Status X D2.0 unresolved

6.3 dB doesn't seem right for the wavelengths concerned: see comment against 168.9

SuggestedRemedy

Change 6.3 to 6.0 (or 6.1); change 10.6 to 10.3 (or 10.4)

Proposed Response Response Status W

PROPOSED REJECT.

Keep consistent with LR PMDs from previous clauses.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

Cl 168 SC 168.7.5.1 P38 L5 # 38  
Dawe, Piers Nvidia  
Comment Type E Comment Status X D2.0 unresolved  
This long sentence with two clauses is hard to understand. In a few places such as 150.8.5, 150.8.7, 150.8.10 and 151.8.1 it has been divided into two sentences.  
SuggestedRemedy  
Change "GHz and at frequencies" to "GHz. At frequencies", here and in 168.7.10.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Resolve using response to comment #15.

Cl 168 SC 168.7.5.3 P38 L53 # 39  
Dawe, Piers Nvidia  
Comment Type T Comment Status X D2.0 unresolved  
More exceptions  
SuggestedRemedy  
The signaling rate of the test pattern generator is as given in Table 168-6 and uses a test pattern specified for TDECQ in Table 168-10.  
There are no interfering optical lanes and therefore the delay requirement of at least 31 UI between test pattern on one lane and any other lane, as specified in 121.8.5.1, is redundant. [Stated above — The combination of the O/E converter and the oscilloscope has a 3 dB bandwidth of approximately 26.5625 GHz with a fourth-order Bessel-Thomson response to at least 1.3 × 53.125 GHz. At frequencies above 1.3 × 53.125 GHz the response should not exceed -20 dB. Compensation may be made for any deviation from an ideal fourth-order Bessel-Thomson response.]  
The normalized noise power density spectrum, N(f) in Equation (121-9), is equivalent to white noise filtered by a fourth-order Bessel-Thomson response filter with a 3 dB bandwidth of 26.5625 GHz.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Resolve using response to comment #15.

Cl 168 SC 168.7.5.4 P39 L19 # 40  
Dawe, Piers Nvidia  
Comment Type T Comment Status X D2.0 unresolved  
A signal that needed a main tap at 0.8 would be unhealthily over-emphasised and troublesome for the receiver. The over/under-shoot spec may catch many such signals. If it catches them all, tightening this limit will make no difference. If it doesn't catch all of them, tightening this limit will be helpful.  
SuggestedRemedy  
Change 0.8 to 0.85  
Proposed Response Response Status W  
PROPOSED REJECT.  
0.8 is following clause 140.  
See comment #15.

Cl 168 SC 168.7.11 P40 L53 # 41  
Dawe, Piers Nvidia  
Comment Type T Comment Status X D2.0 unresolved  
In practice, RIN is not measured with the optical power meter method described in 52.9.6 these days, but with the scope method described in P802.3dj 180.9.11 (and T&M vendor's literature). This has the advantage that RIN can be calculated as a by-product of a TECQ measurement.  
SuggestedRemedy  
As this project is ahead of P802.3dj, replace the contents of 168.7.11 with a copy of 180.9.11, adjusting for the optical return loss(es) and reference Rx bandwidth of this clause. In Table 168-10, change "Square wave" to "4 or 6".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
See comment #25.

Cl 168 SC 168.7.12 P41 L8 # 42  
Dawe, Piers Nvidia  
Comment Type E Comment Status X D2.0 unresolved  
This figure is a bitmap; grey and unclear  
SuggestedRemedy  
Insert the figure the proper way so it appears as a "vector graphic" in the pdf;  
Use black font;  
Make the axes black.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

CI 168 SC 168.7.12 P41 L9 # 43

Dawe, Piers Nvidia

Comment Type E Comment Status X D2.0 unresolved  
y axis can be optimised

SuggestedRemedy

Change the limits from (-18 to 0) to (-15 to -3)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

CI 168 SC 168.7.12 P41 L37 # 44

Dawe, Piers Nvidia

Comment Type E Comment Status X D2.0 unresolved  
100GBASE-BR10

SuggestedRemedy

100GBASE-BR10

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

CI 168 SC 168.7.12 P41 L40 # 45

Dawe, Piers Nvidia

Comment Type E Comment Status X D2.0 unresolved  
Units should be upright not italic

SuggestedRemedy

Per comment

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #29.

CI 168 SC 168.7.13 P42 L38 # 46

Dawe, Piers Nvidia

Comment Type E Comment Status X D2.0 unresolved

In this section we have: conformance test signal, signal being transmitted, received conformance signal, optical test signal, stressed receiver conformance test signal, test signal, input signal, signal, and stressed receiver conformance input signal. We are supposed to use the same name for a thing, every time (style guide 10.1.1 Homogeneity).

SuggestedRemedy

Try to clean this up, as much as is reasonable.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #20.

CI 168 SC 168.7.13 P42 L39 # 47

Dawe, Piers Nvidia

Comment Type E Comment Status X D2.0 unresolved

"SRS" is not explained. It is used only three times.

SuggestedRemedy

Spell it out each time

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Follow treatment in 802.3dj.

CI 168 SC 168.7.13 P42 L42 # 48

Dawe, Piers Nvidia

Comment Type T Comment Status X D2.0 unresolved

This says "The reflectance of the optical link should be at its maximum level" but there is no text to tell the reader what to do, and unlike the TDECQ setup, there is no optical reflector in Fig 168-7.

SuggestedRemedy

Explain this fully or delete the sentence.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
(D2.0 comment #198)  
Consider revising figure 168-7.  
See contribution 3dk\_effenberger\_2504\_1.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

CI 168 SC 168.7.13 P42 L44 # 49

Dawe, Piers Nvidia

Comment Type T Comment Status X D2.0 unresolved

While it should be obvious...

**SuggestedRemedy**

Add text saying that the PMD's transmitter and any other circuitry that could cause crosstalk should be operational when stressed sensitivity (and regular sensitivity) is measured. The same goes for transmitter measurements such as TECQ and TDECQ.

**Proposed Response** Response Status W

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

See comment #20.

CI 168 SC 168.7.13.3 P43 L33 # 50

Dawe, Piers Nvidia

Comment Type E Comment Status X D2.0 unresolved

Now that we have a definition of TECQ, this can be done directly

**SuggestedRemedy**

Change "is measured according to 168.7.5, except that the test fiber is not used" to "is measured according to 168.7.6"

**Proposed Response** Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #20.

CI 168 SC 168.7.13.3 P43 L41 # 51

Dawe, Piers Nvidia

Comment Type E Comment Status X D2.0 unresolved

From the style guide: The word may is used to indicate a course of action permissible within the limits of the standard (may equals is permitted to).

**SuggestedRemedy**

Change "under-stressed may result" to "under-stressed could result" or "under-stressed might result"

**Proposed Response** Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment #20.

CI 168 SC 168.9 P45 L26 # 52

Dawe, Piers Nvidia

Comment Type T Comment Status X D2.0 unresolved

Originally, 10 km = 6 dB at 1310 nm. 10GBASE-BR10 can be at 1260 nm, so 6.2 dB. 25GBASE-BR10 and 50GBASE-BR10, also 1260 nm, are allowed 6.3 dB. 100GBASE-BR's shortest wavelength is 1303.6 nm so the same cable won't show so much loss. Calculating the channel insertion loss using the link model, it's 6.00 dB at 1310 nm 6.20 at 1260 or 6.02 dB at 1303.6 nm

**SuggestedRemedy**

Change 6.3 to 6 (or 6.1). Change the budget for 100GBASE-BR10 from 10.6 to 10.3 (or 10.4).

**Proposed Response** Response Status W

PROPOSED REJECT.  
Keep consistent with LR PMDs in previous clauses.

CI 168 SC 168.9 P45 L36 # 53

Dawe, Piers Nvidia

Comment Type T Comment Status X D2.0 unresolved

This gives the dispersion ranges for the upstream direction only

**SuggestedRemedy**

Add two more rows for the dispersion ranges for the downstream direction.

**Proposed Response** Response Status W

PROPOSED REJECT.  
The dispersion covers both directions.  
(This is simplification.)

CI 168 SC 168.10 P46 L26 # 54

Dawe, Piers Nvidia

Comment Type E Comment Status D D2.0 unresolved

may not support operation 10 km for 100GBASE-BR10, 20 km for 100GBASE-BR20 or 40 km for 100GBASE-BR40.

**SuggestedRemedy**

may not support operation \*at\* 10 km for 100GBASE-BR10, 20 km for 100GBASE-BR20 or 40 km for 100GBASE-BR40.

**Proposed Response** Response Status W

PROPOSED ACCEPT.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

CI 168 SC 168.11 P47 L39 # 55

Dawe, Piers

Nvidia

Comment Type E Comment Status X D2.0 unresolved

"168.11 Requirements for interoperation between 100GBASE-BRx PMDs" other similar material e.g. in 151 doesn't say "Requirements for".

SuggestedRemedy

Delete "Requirements for" here and in the table title.

Proposed Response Response Status W

PROPOSED ACCEPT.

Change the subclause title of 168.11 into:

"Interoperation between 100GBASE-BRx PMDs".

Change the table title of Table 168-15 into:

"Channel characteristics for interoperation between 100GBASE-BR20 and 100GBASE-BR40".

Add additional row to specify the maximum distance in Table 168-15.

CI 168 SC 168.11 P47 L39 # 56

Dawe, Piers

Nvidia

Comment Type T Comment Status X D2.0 unresolved

This needs some text to introduce the table, which should also address interoperability, or not, with 100GBASE-BR10. Presumably the mixed link has to stay within the chromatic dispersion limits of the shorter-reach PMD.

SuggestedRemedy

Something like:

168.11 Interoperation between 100GBASE-BRx PMDs

The 100GBASE-BR20 and 100GBASE-BR40 PMDs can interoperate with each other (over an engineered link) provided that the fiber optic cabling (channel) characteristics for 100GBASE-BR20 in Table 168-12 are met, with the exception of the maximum and minimum channel insertion loss values, which are given in Table 168-15 for the two link directions separately. Attenuators may be used to achieve the required losses.

Interoperation between 100GBASE-BR10 and 100GBASE-BR20 or 100GBASE-BR40 is not recommended (or whatever the case is).

Proposed Response Response Status W

PROPOSED REJECT.

See comment #32.

CI 168 SC 168.5.1 P30 L38 # 57

Dudek, Mike

Marvell

Comment Type E Comment Status X D2.0 unresolved

poor English.

SuggestedRemedy

Delete the "be" in "are not typically be accessible"

Proposed Response Response Status W

PROPOSED ACCEPT.

Maintenance required for Clause 160.

CI 168 SC 168.6 P32 L40 # 58

Dudek, Mike

Marvell

Comment Type TR Comment Status X D2.0 unresolved

The statement is made that the 100GBASE-DR40 PMD will interoperate with the 100GBASE-BR10 and 100GBASE-BR20 provided the channel requirements for 100GBASE-BR10 and 100GBASE-BR20 are met, however section 168.11 includes additional requirements for interoperation between 100GBASE-BR40 and 100GBASE-20 including the addition of minimum losses. Section 168.11 doesn't include minimum losses for inter-operation between 100GBASE-BR40 and 100GBASE-10 and the minimum Tx output power for 100GBASE-BR40 in the off state is -15dBm which is greater than the signal detect "fail" level of -20dBm.

SuggestedRemedy

add "except that the channel losses are specified in section 168.11". Add an appropriate table for the inter-operation between 100GBASE-BR40 and 100GBASE-BR10 to section 168.11

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See comment #32.

CI 168 SC 168.7.12 P41 L # 59

Dudek, Mike

Marvell

Comment Type T Comment Status X D2.0 unresolved

In Figure 168-6 "meets equation constraints" needs to be below all the lines or it needs to be deleted.

SuggestedRemedy

Fix it

Proposed Response Response Status W

PROPOSED ACCEPT.

See comment #29.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

<b>Cl 168</b>	<b>SC 168.11</b>	<b>P47</b>	<b>L47</b>	<b># 60</b>
Dudek, Mike		Marvell		
<b>Comment Type</b>	<b>TR</b>	<b>Comment Status</b>	<b>X</b>	<b>D2.0 unresolved</b>
<p>There is only one fiber between the BR20 and BR40 PMD's so there can't be different loss specs for the two directions. To be compliant in both directions it appears that the loss between BR20 and BR40 would have to be min 8.3dB and max 10dB which is a very small range but could be specified.</p>				
<b>SuggestedRemedy</b>				
<p>Collapse the two rows in Table 168-15 into one row. With min loss of 8.3dB and max loss of 10dB</p>				
<b>Proposed Response</b>	<b>Response Status W</b>			
<p>PROPOSED ACCEPT IN PRINCIPLE. See comment #32.</p>				

<b>Cl 45</b>	<b>SC 45.2.1.6</b>	<b>P16</b>	<b>L10</b>	<b># 61</b>
Zimmerman, George		ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse		
<b>Comment Type</b>	<b>E</b>	<b>Comment Status</b>	<b>D</b>	<b>consistency_dj</b>
<p>Editing instruction reads 'as amended by IEEE Std 802.3dj-20xx' - this standard seems AHEAD of 802.3dj, which hasn't even entered working group ballot. This appears to have been in response to comment 146, but comment 146 didn't call for building off of edits made in 802.3dj, it merely pointed out dj was extending the space. The error appears to go beyond the editing instruction - the line "10101xxx = reserved" which is struck out and amended is ADDED by the d1.5 of dj... Further, the edit isn't even fully consistent with the most recent amendment I know of, 802.3df, since it shows 11xxxxxx as an insert, and that was already inserted by 802.3df, nor with 802.3dj, because that shows 1011xxxx inserted by dj d1p5. FYI, correlation with the completed and in-progress drafts AHEAD of this draft is why comment 112 is unsatisfied.</p>				
<b>SuggestedRemedy</b>				
<p>Consultt with WG leadership on amendment order. Assuming there are no other drafts ahead of this amendment which change Table 45-7, change editing instruction to indicate "(as amended by IEEE Std 802.3df-2024)"</p> <p>Change edit to table 45-7, to reflect the state of the table at that amendment. (if it is df, then:</p> <p>remove underscore from: the bit numbers (7 6 5 4 3 2 1 0) and 11 x x x x x x = reserved rows</p> <p>Retain 1011 x x x x = reserved row with underscore</p> <p>Replace 10101x x x = reserved, with "1 0 1 x x x x x = reserved"(in strikeout)</p> <p>and keep remaining inserted rows (101011xx and below) as in draft.</p> <p>(If there are other drafts after 802.3df that edit this table, adjust editing instruction and edits appropriately)</p>				
<b>Proposed Response</b>	<b>Response Status W</b>			
<p>PROPOSED ACCEPT IN PRINCIPLE. Implement suggested remedy with editorial license.</p>				

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

CI 168 SC 168.6.3 P44 L18 # 62

Maniloff, Eric

Ciena

Comment Type TR Comment Status X technical

Penalty allocations include 0.9dB more than TDECQ for the 10km spec, but only 0.5dB more for the 20 & 40km specs. Penalty allocations normally include allocations for DGD and MPI penalties. DGD is 3.1/3.9/5.0 ps for 10/20/40km specs. The expectation would be that penalties for 20 & 40 kms would be  $\geq$  those for 10 km.

SuggestedRemedy

Based on the data in (shuai\_3cu\_adhoc\_050119.pdf) the increase in penalty from DGD is < 0.1dB for the BR20 DGD spec. MPI allocation should be comparable hence having 0.9dB penalty for for both BR 10 and BR20 is recommended. For BR40 there is an additional approx 0.1 to 0.15 dB DGD penalty, however this will be offset by the reduced MPI penalty at the higher loss. Using 0.9dB additional penalty for BR10, BR20, and BR40 is recommended, resulting in total allocations for penalties of 4.3 / 4.3 / 4.8 dB for BR10 / BR20 / BR40.

Proposed Response Response Status W

For group discussion.

CI 168 SC 168.6.1 P42 L28 # 63

Maniloff, Eric

Ciena

Comment Type TR Comment Status X technical

Currently the OMA (Max) value for 100GBASE-BR20 is 0 dBm. At max TDECQ the OMA (Min) values for this are -0.3 dBm. This leaves 0.3 dB difference between Min and Max for BR20. This is not sufficient difference for manufacturing yield, lifetime, or thermals.

SuggestedRemedy

In order to increase the  $\Delta$  between min and max values, either minimum needs to be reduced or maximum needs to be increased. Due to overload concerns, there has been resistance to increasing the maximum value. Specifying a minimum insertion loss will enable an increase to the maximum Tx power. A recommended solution is to specify a minimum link loss of 1.2 dB in Table 168-12 and a maximum OMA<sub>outer</sub> of 1.2dBm.

Proposed Response Response Status W

For group discussion.

CI 168 SC 168.6.1 P42 L28 # 64

Maniloff, Eric

Ciena

Comment Type TR Comment Status X technical

Currently the OMA (Max) values for 100GBASE-BR40 is 8.3dBm. At max TDECQ the OMA (Min) values for this is 7.8 dBm. This leaves 0.5 dB difference between Min and Max OMA<sub>outer</sub> for BR40. This is not sufficient difference for manufacturing yield, lifetime, thermals.

SuggestedRemedy

In order to increase the  $\Delta$  between min and max values, either minimum needs to be reduced or maximum needs to be increased. Due to overload concerns, there has been resistance to increasing the maximum value. Specifying a 1 dB higher minimum insertion loss will enable an increase to the maximum Tx power. A recommended solution is to specify a minimum link loss of 11 dB in Table 168-23 and a maximum OMA<sub>outer</sub> of 9.3 dBm.

Proposed Response Response Status W

For group discussion.

CI 00 SC 0 P11 L54 # 65

Wienckowski, Natalie

IVN Solutions LLC

Comment Type ER Comment Status D contents

Missing table of contents  
This was submitted as comment #258 on D2.0. The comment resolution was "ACCEPT", but the table has not been added.

SuggestedRemedy

Create table of contents and insert after the introductory material and before Clause 30.

Proposed Response Response Status W

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

CI 45 SC 45.2.1.8 P17 L22 # 66

Wienckowski, Natalie

IVN Solutions LLC

Comment Type ER Comment Status D cross-ref

Subclause 45.2.1.8.1 should not have been removed as Table 45-12 is in this subclause.

SuggestedRemedy

Restore subclause 45.2.1.8.1

Proposed Response Response Status W

PROPOSED REJECT.  
Table 45-12 is part of 45.2.1.8, not 45.2.1.8.1.  
See D2.0 comment #142.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

CI 157 SC 157.6 P34 L14 # 67  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
Clause 160 is not in this document.  
SuggestedRemedy  
Apply a character tag of "External" to "Clause 160".  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.6 P34 L12 # 68  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
fix the Clause 45 link as it is in the document.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI 168 SC 168.1 P45 L29 # 69  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
References to external points not properly indicated. In Table 168-1, there are links to the following which are not in the document: 81, 82, 83, 83A, 83B, 83D, 83E, 135, 135D, 135E, 135F, 135G, 120F, 120G, and 78.  
SuggestedRemedy  
Apply a character tag of "External" to "Clause 160".  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 168 SC 168.1 P45 L36 # 70  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
fix the link to 91 as it is in the document.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI 80 SC 80.2.5 P21 L51 # 71  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Clause 84, Clause 89, Clause 92, Clause 95, Clause 136, Clause 138, Clause 140, Clause 154, and Clause 163.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 80 SC 80.2.5 P21 L52 # 72  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
fix the link to "Clause 168" as it is in the document.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.



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CI 80 SC 80.2.5 P21 L52 # 73  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D editorial  
There is an extra "and" in the sentence.  
SuggestedRemedy  
Remove the "and" after "Clause 140,"  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 80 SC 80.4 P22 L12 # 74  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: 140.3 and 88.3.1.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 80 SC 80.7 P23 L38 # 75  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D cross-ref  
broken link  
SuggestedRemedy  
fix the Clause 45 link as it is in the document.  
Also, change the space to a non-breaking space.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 80 SC 80.7 P23 L38 # 76  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Clause 73, Clause 74, Clause 71, Clause 91, Clause 95, Clause 135, Clause 138, Clause 140, Clause 152, Clause 154, Clause 161, and Clause 163.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 91 SC 91.5.3.3 P24 L35 # 77  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "91.6.8".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 91 SC 91.5.3.3 P24 L36 # 78  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "91.6.1".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

CI 91 SC 91.6.3 P25 L19 # 79  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "91.5.2.6".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 91 SC 91.6.3 P25 L25 # 80  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "45.2.1.116".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 91 SC 91.7.4.1 P27 L13 # 81  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D cross-ref  
broken link  
SuggestedRemedy  
fix the 91.5.2.7 link as it is in the document.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 91 SC 91.7.4.1 P27 L18 # 82  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D cross-ref  
broken link  
SuggestedRemedy  
fix the 91.5.2.7 link as it is in the document.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 91 SC 91.7.4.2 P28 L7 # 83  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D cross-ref  
broken link  
SuggestedRemedy  
fix the 91.5.3.3 link as it is in the document.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 91 SC 91.7.4.2 P28 L22 # 84  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D cross-ref  
broken link  
SuggestedRemedy  
fix the 91.5.3.3 link as it is in the document.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 91 SC 91.7.4.2 P28 L37 # 85  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D cross-ref  
broken link  
SuggestedRemedy  
fix the 91.5.3.3 link as it is in the document.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

CI 157 SC 157.1.2 P29 L33 # 86  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
fix the 80.1.3 link as it is in the document.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI 157 SC 157.1.4 P31 L28 # 87  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Table 157-3, Table 157-4, and Table 157-5.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.2.1 P31 L46 # 88  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Table 157-3, Table 157-4, and Table 157-5.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.2.2 P31 L54 # 89  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Table 157-3, Table 157-4, and Table 157-5.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.2.2 P32 L8 # 90  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: 120F and 120G.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.2.2 P32 L8 # 91  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
Fix the 168 link as it is in the document, and make it black.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

CI 157 SC 157.2.3 P32 L36 # 92  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Table 157-3, Table 157-4, and Table 157-5.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.2.3 P32 L36 # 93  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
fix the Table 157-6 link as it is in the document.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI 157 SC 157.2.4 P32 L50 # 94  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Table 157-3, Table 157-4, and Table 157-5.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.2.4 P32 L51 # 95  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
fix the Table 157-6 link as it is in the document.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI 157 SC 157.2.5 P33 L5 # 96  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **ER** Comment Status **D** external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to: Table 157-3, Table 157-4, and Table 157-5.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.2.5 P33 L5 # 97  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type **E** Comment Status **D** cross-ref  
broken link  
SuggestedRemedy  
fix the Table 157-6 link as it is in the document.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

CI 157 SC 157.3 P33 L21 # 98  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "80.3".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.4.2 P33 L48 # 99  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D cross-ref  
broken link  
SuggestedRemedy  
fix the 80.5 link as it is in the document.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 157 SC 157.4.2 P33 L48 # 100  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "116.5".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 157 SC 157.4.2 P33 L49 # 101  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type E Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "Figure 80-8" and "Figure 116-5".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 168 SC 168.5.10 P41 L28 # 102  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Remove the hyperlink, which goes no where, and apply a character tag of "External" to "157.5".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

CI 168 SC 168.8.1 P53 L18 # 103  
Wienckowski, Natalie IVN Solutions LLC  
Comment Type ER Comment Status D external  
As comment #235 on D2.0 stated: References to external points not properly indicated.  
SuggestedRemedy  
Apply a character tag of "External" to "J.2".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Implement suggested remedy with editorial license.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comment

Cl 56 SC 56.1.3 P2627 L0 # 104

Dawe, Piers

Nvidia

Comment Type E Comment Status D new

Table 56-1, Summary of EFM Physical Layer signaling systems, includes 25GBASE-BR and 50GBASE-BR.

SuggestedRemedy

Add 6 entries for 100GBASE-BR after 50GBASE-BR40-U. Because this table is too long and this additional change makes it longer, split the table into two, first P2P then P2MP.

Proposed Response Response Status W

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

Cl 56 SC 56.1.1.1 P2622 L0 # 105

Dawe, Piers

Nvidia

Comment Type E Comment Status D new

After:  
The 50GBASE-R PCS, RS-FEC, and PMA sublayers are used to support a bit rate of 50 Gb/s as defined in Clause 160.  
(They aren't defined there, they are specified - but for consistency...)

SuggestedRemedy

Add:  
The 100GBASE-R PCS, RS-FEC, and PMA sublayers are used to support a bit rate of 100 Gb/s as defined in Clause 168.

Proposed Response Response Status W

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

Cl 56 SC 56.1.3 P2624 L0 # 106

Dawe, Piers

Nvidia

Comment Type E Comment Status D new

After the paragraph for 50GBASE-BR

SuggestedRemedy

Add a similar one for 100GBASE-BR

Proposed Response Response Status W

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

Cl 56 SC 56.1.3 P2630 L0 # 107

Dawe, Piers

Nvidia

Comment Type E Comment Status D new

Table 56-2, Nomenclature and clause correlation for P2P systems, includes 25GBASE-BR and 50GBASE-BR.

SuggestedRemedy

Add rows and columns for 100GBASE-BR.  
The columns for 58 and 59 could be reduced to one each to save space.

Proposed Response Response Status W

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

Cl 80 SC 80.4 P22 L6 # 108

Dawe, Piers

Nvidia

Comment Type E Comment Status D quick review

D2.0 comment 159 (accepted with editorial license): Table 80-7, Sublayer delay constraints, is a long table and this amendment makes it longer, so it should make the consequential change.

SuggestedRemedy

Split the table into two, Sublayer delay constraints for 40Gb/s PHYs and Sublayer delay constraints for 100Gb/s PHYs. Then footnotes a and b can be simplified.

Proposed Response Response Status W

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

Cl 91 SC 91.5.2.7 P24 L14 # 109

Dawe, Piers

Nvidia

Comment Type E Comment Status D editorial

100GBASEVR1 ... 100GBASELR1, 100GBASE-CR1  
Similarly, 100GBASEVR1, 100GBASELR1 and 100GBASEBR10 (twice) in 91.5.3.3,

SuggestedRemedy

100GBASE-VR1 ... 100GBASE-LR1, 100GBASE-CR1  
and so on

Proposed Response Response Status W

PROPOSED ACCEPT.

# 802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

Cl 135 SC 135.5.7 P29 L0 # 110

Dawe, Piers

Nvidia

Comment Type T Comment Status D new

If precoding is allowed as an option:

There are precoder enable registers (1.600 to 1.603). There are precoder request (1.604) and precoder request status (1.605) registers, but we would add precoder ability registers and let the network operator choose when to use precoding (unlike CR/KR where precoder ability is known and its use is negotiated during Training).

Precoding can be implemented or used in one or both directions or (default) neither.

## SuggestedRemedy

Consider including precoding (135.5.7) as an option. This could be controlled by the network operator according to experience.

If so: in 135.5.7.2, before "a 50GBASE-R or 100GBASE-R PMD that", insert "a 100GBASE-BRx PMD, or".

To make what is already a long and difficult sentence clearer, lay it out as a bulleted list:

- connected to 100GBASE-BRx, or
- connected to PMD that includes..., or
- are part of a C2C

Change

The PMA shall provide  $1/(1+D)$  mod 4 precoding capability on each output lane and may optionally provide  $1/(1+D)$  mod 4 decoding capability on each input lane.

to:

The PMA may optionally provide  $1/(1+D)$  mod 4 decoding capability on each input lane. An PMA shall provide  $1/(1+D)$  mod 4 precoding capability on each output lane, except a PMA that is connected to the service interface of a 100GBASE-BRx PMD which may provide such a capability.

Modify PICS 135.7.7.

Add two precoder ability bits in MDIO, one for Tx and one for Rx.

Proposed Response Response Status W

For group discussion.

Cl 157 SC 157.6 P34 L12 # 111

Dawe, Piers

Nvidia

Comment Type E Comment Status D quick review

Add 100G clauses

## SuggestedRemedy

Add 81-83 and 91. Consider if 90 (time sync) should be added, here and in Table 168-1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement suggested remedy with editorial license.

Cl 168 SC 168.1 P35 L34 # 112

Dawe, Piers

Nvidia

Comment Type E Comment Status D quick review

Shouldn't 83, 83A, 83B, 83D and 83D be together? Maybe they can all be above 91 FEC, and the 135 PMA below, but 162 has 91 above all the 83s.

## SuggestedRemedy

Swap 83 and 91, or move 91 to below 83E

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement suggested remedy with editorial license.

(currently Follow CL140)

Cl 168 SC 168.1 P35 L35 # 113

Dawe, Piers

Nvidia

Comment Type T Comment Status D new

Details for optional interleaved FEC. I believe that both directions use it or don't (rather than one way on, one way off). There is a 100G RS-FEC-Int enable bit already (1.200.5) and a 100G RS-FEC enable bit (1.200.6).

## SuggestedRemedy

In Table 168-1, below 91 FEC and above 135 PMA, insert:

152—Inverse RS-FEC Optional b

161—RS-FEC-Int Optional

b Inverse RS-FEC is required to convert between RS-FEC and RS-FEC-Int (see 152.1.2).

In Table 80-5, between 91 and 135, insert 152 and 161: O for all 100GBASE-BR.

Add a 100G RS-FEC-Int ability bit, e.g. in 45.2.1.117 RS-FEC status register (Register 1.201).

Add text in 168.1 saying that a network operator can use interleaved FEC for improved robustness, determining if both ends of the link have the ability, and setting both ends of the link to use it.

Add these registers to tables 168-2 and 3.

Proposed Response Response Status W

For group discussion.

802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

Cl 168 SC 168.6.1 P42 L29 # 114

Dawe, Piers Nvidia

Comment Type E Comment Status D editorial

Missing equation number, non-functioning cross-references

SuggestedRemedy

Fix

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 168 SC 168.6.1 P42 L36 # 115

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

For improved readability, where the parameter limits seem likely to remain the same for all 3 (6) PMDs...

SuggestedRemedy

As for the first five rows, merge and straddle the triple entries for transmitter over/under - shoot, and for receiver reflectance in Table 168-7.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 168 SC 168.6.1 P42 L51 # 116

Dawe, Piers Nvidia

Comment Type T Comment Status D quick review

This says "Even though the representation of the OMAouter requirement is different from that in Clause 140, they are consistent". Here, OMAouter (min) is  
 $\max(1.1, -0.3 + \max(\text{TECQ}, \text{TDECQ}))$   
 $\max(-2.3, -3.7 + \max(\text{TECQ}, \text{TDECQ}))$   
 $\max(5.3, 3.9 + \max(\text{TECQ}, \text{TDECQ}))$ .  
 140 has:  
 $\max(-0.8, -2.2 + \text{TDECQ})$  or  $\max(-0.8, -1.9 + \text{TDECQ})$   
 $\max(-0.1, -1.5 + \text{TDECQ})$   
 $\max(1.1, -0.3 + \max(\text{TDECQ}))$ .  
 They are not the same, and would not be the same even if the numbers were the same; one includes TECQ and the other does not, but it has an option depending on extinction ratio.

SuggestedRemedy

Delete the sentence, it is unnecessary. The spec is clear without it.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Cl FM SC FM P1 L28 # 117

Dawe, Piers Nvidia

Comment Type E Comment Status D editorial

Woring

SuggestedRemedy

Working

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.1.6 P16 L13 # 118

Dawe, Piers Nvidia

Comment Type E Comment Status D editorial

2register

SuggestedRemedy

2 register

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 91 SC 91.5.2.7 P24 L11 # 119

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

as modified by IEEE Std 802.3ck-2022

SuggestedRemedy

as modified by IEEE Std 802.3db-2022 and IEEE Std 802.3ck-2022  
 Possibly in several places.

Proposed Response Response Status W

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



# 802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

Cl 45 SC 45.2.1.6 P16 L29 # 120

Dawe, Piers Nvidia

Comment Type E Comment Status D format

So that the reviewers can confirm that the new material is inserted in the correct place, in the correct style, and without using a code that's already taken (D2.0 comment 136):

*SuggestedRemedy*

Please show the sub-rows below and above, if any. In this case, the sub-row before is  
1 0 1 0 0 0 1 1 = 1.6TBASE-DR8-2 PMA/PMD  
There is no sub-row above. However, the top sub-row,  
7 6 5 4 3 2 1 0  
is part of 802.3dj so should not be underlined.

Proposed Response Response Status W

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

Cl 45 SC 45.2.1.33 P18 L24 # 121

Dawe, Piers Nvidia

Comment Type E Comment Status D format

So that the reviewers can confirm that the new material is inserted in the correct place, in the correct style, and without using a bit that's already taken (D2.0 comment 136):

*SuggestedRemedy*

Please show the rows below and above, if any. In this case, the row before begins  
1.35.5 50GBASE-BR40-U ability  
and the top of the table is included anyway.

Proposed Response Response Status W

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

Cl 30 SC 30.5.1.1.2 P15 L16 # 122

Dawe, Piers Nvidia

Comment Type E Comment Status D format

So that the reviewers can confirm that the new material is inserted in the correct place, in the correct style (D2.0 comment 136):

*SuggestedRemedy*

Please show one row before and one after the new material

Proposed Response Response Status W

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

Cl 30 SC 30.5.1.1.2 P15 L17 # 123

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

In 30.5, one should not describe these MAU types as "bidirectional" when about a hundred other bidirectional types in the BASE-BX, BASE-BR, BASE-PR, BASE-PQ and BASE-T families are not described like that. Writing "one single-mode fiber" was believed to tell the reader that it's bidirectional. In any case, Ethernet PHYs are always bidirectional, even when the medium isn't. Here we are talking about MAUs which are like PHYs.

*SuggestedRemedy*

Even though it's in the project title and the abstract: in 30.5, for consistency with the hundred other MAUs that use a medium bidirectionally, delete "bidirectional" here. A proposal to maintenance would need to address BASE-T as well as optical.

Proposed Response Response Status W

PROPOSED REJECT.  
See D2.0 comment#137.

Cl 80 SC 80.1.4 P20 L27 # 124

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

Similar to D2.0 comment 159 "This is a long table and this amendment makes it longer, so it should make the consequential change."

*SuggestedRemedy*

Split Table 80-1, 40 Gb/s and 100 Gb/s PHYs, into two tables,  
40 Gb/s PHYs  
and  
100 Gb/s PHYs  
Change the sentence "Physical Layer devices listed in Table 80-1 are defined for operation at 40 Gb/s and 100 Gb/s." to "Physical Layer devices listed in Table 80-1 are defined for operation at 40 Gb/s. Physical Layer devices listed in Table 80-2 are defined for operation at 100 Gb/s." Move the first (40G) sentence earlier, to follow the paragraph about 40GBASE-T.

Proposed Response Response Status W

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

# 802.3dk D2.1 Bidirectional 100Gb/s Optical Access PHYs 1st Working Group recirculation ballot comme

CI 80 SC 80.1.4 P20 L38 # 125

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

Compare the order of entries in Table 56-1, Table 56-3, Table 45-37 (which is "upside down" as normal for 45) and Table 80-1. The standard order is rate-reach-width, then it seems D then U.

SuggestedRemedy

Re-order this from 10-D 20-D 40-D 10-U 20-U 40-U to 10-D 10-U 20-D 20-U 40-D 40-U.

Proposed Response Response Status W

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

CI 80 SC 80.1.5 P21 L22 # 126

Dawe, Piers Nvidia

Comment Type E Comment Status D editorial

Missing Ms in Table 80-5

SuggestedRemedy

Add 6 Ms, 2 in each column of 168

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 80 SC 80.1.5 P21 L23 # 127

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

Compare the order of entries in Table 56-1, Table 56-3, Table 45-37 (which is "upside down" as normal for 45) and Table 80-2. The standard order is rate-reach-width, then it seems D then U.

SuggestedRemedy

Re-order this from 10-D 20-D 40-D 10-U 20-U 40-U to 10-D 10-U 20-D 20-U 40-D 40-U.

Proposed Response Response Status W

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

CI 80 SC 80.2.3 P21 L42 # 128

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

As 100GBASE-LR1 is for 10 km, 100GBASE-ZR is for 80 km, and 100GBASE-BR is for 10, 20, 40 km

SuggestedRemedy

Change "100GBASE-LR1, 100GBASE-ZR, and 100GBASE-BRx PHYs" to "100GBASE-LR1, 100GBASE-BRx, and 100GBASE-ZR PHYs"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 80 SC 80.1.3 P21 L17 # 129

Dawe, Piers Nvidia

Comment Type E Comment Status D quick review

In "Clause 168 for 100GBASE-BRx", BRx is not introduced and it does not appear in Table 80-1

SuggestedRemedy

Add a sentence of explanation to 80.1.4

Proposed Response Response Status W

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

CI 168 SC 168.7.1 P49 L45 # 130

Dawe, Piers Nvidia

Comment Type T Comment Status X new

After RIN measurement is improved (D2.0 comments 94 and 191), the only use for square wave in the standard will be as an alternative to SSPRQ for measuring transmitter transition time (but it relies on 20% and 80% of OMAouter; OMAouter is measured with PRBS13Q or SSPRQ, not square wave, so it's not practical anyway). But transmitter transition time goes with TECQ, extinction ratio, overshoot and undershoot; they can all be obtained from the same measurement with SSPRQ. There is no need for the standard to mandate a second way. Square wave is a very untypical pattern which should not be recommended if there is a practical alternative.

SuggestedRemedy

Delete square wave from tables 168-9 and 168-10. Someone who wants to use it still can, because it still exists in 120.5.11.2.5, and the registers to advertise it and control it still exist in 45, but we should not encourage it in future.

Proposed Response Response Status W

For group discussion

Cl 168	SC 168.7.12	P51	L4	# 131
Dawe, Piers		Nvidia		
Comment Type	E	Comment Status	D	editorial
Correction to D2.0 comment 194: change 100GBASE-BR10 to...				
SuggestedRemedy				
100GBASE-BR40				
Proposed Response	Response Status		W	
PROPOSED ACCEPT.				

Cl 168	SC 168.9	P55	L7	# 132
Dawe, Piers		Nvidia		
Comment Type	T	Comment Status	D	new
This is to revise D2.0 comment 206.				
Table 168-12 gives the maximum dispersion in the downstream direction (D to U) and the minimum in the upstream direction. But transceiver designers need to know the range for D and U separately to design correctly for dispersion.				
SuggestedRemedy				
Replace the two rows with four rows:				
Maximum dispersion, D to U 4.6 4.2 2.5				
Maximum dispersion, U to D 0.6 -3.7 -13.4				
Minimum dispersion, D to U -13.9 -23.8 -42.3				
Minimum dispersion, U to D -18 -32 -59				
Delete note b				
Add a column for the four wavelengths				
Proposed Response	Response Status		W	
For group discussion.				