IEEE P802.3cw D1.2 400 Gb/s over DWDM systems 3rd Task Force review comments

Comment Type T  Comment Status X
Text says the 400GMII extender sublayers are shown in the figure, but the figure does not include them.
SuggestedRemedy
Delete the second sentence of the first paragraph of 155.1.2, beginning with "The sublayers of a 400GMII Extended Sublayer..."
Proposed Response

Comment Type T  Comment Status X
The sentence about rate matching not being necessary could be more clear. Rate matching as described in 119.2.4.1 has two purposes: making room for alignment markers, and aligning the two clock domains. It is not needed in 400BASE-ZR both because the AMs are not inserted into the stream of transcodced blocks (they are instead part of the 400BASE-ZR frame) and because GMP handles the clock domain transition.
SuggestedRemedy
Modify the second sentence of the first paragraph to read: "The rate matching described in 119.2.4.1 is not required for the 400BASE-ZR PCS because the transcoded block stream is mapped into a 400BASE-ZR frame structure that includes space for alignment markers, and clock compensation between the two clock domains is provided by this mapping."
Proposed Response

Comment Type E  Comment Status X
The right-hand curly brace, two horizontal lines, and word 'Frame' on the right hand side of the figure don't seem to add any clarity. The figure title is 400BASE-ZR frame structure, and the text describes the structure clearly.
SuggestedRemedy
Delete the right-hand curly brace, horizontal lines and 'Frame', leaving only the frame itself in the figure.
Proposed Response
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Cl 155 SC 155.2.4.4.4 P41 L23 #17
Huber, Tom Nokia
Comment Type E Comment Status X
155.2.4.4.4, 155.2.4.4.5, and 155.2.4.4.6 are all describing specific aspects of the 400GBASE-ZR overhead field. As such, it would probably be better if they were renumbered to be subclauses of 155.2.4.4.3.

Suggested Remedy
Change the numbering to 155.2.4.4.3.1 through 155.2.4.4.3.3.

Proposed Response Response Status O

Cl 155 SC 155.2.4.4.5 P41 L41 #18
Huber, Tom Nokia
Comment Type T Comment Status X
More detail about the LDI field is needed. While it is generally better to cross-reference, and the intent is clearly to match the behavior in the 400ZR IA, the IA treats these bits as part of the STAT byte rather than a separate field, and it also refers back to am_sf<2:0> in its definition, so it would be better to describe how LDI<2:0> relates to tx_am_sf<2:0> directly. The text in the IA appears to align with the definitions of tx_am_sf<2:0> for PHY XS FEC Degrade signaling in 118.2.2 of 802.3 (the 'extra processing' in the IA seems to be described in this clause). The order of the bits in the Status byte is different than in tx_am_sf<2:0>.

Suggested Remedy
Add the following text to paragraph 4:
The contents of LDI<2:0> are as follows:
LDI<2> corresponds to tx_am_sf<0> in 118.2.2. LDI<1> corresponds to tx_am_sf<2> in 118.2.2. LDI<0> corresponds to tx_am_sf<1> in 118.2.2.

Proposed Response Response Status O

Cl 155 SC 155.2.4.4.9 P46 L25 #20
Huber, Tom Nokia
Comment Type T Comment Status X
The last 6 rows in the first column are shaded, presumably because they are the 6 blocks of padding, but the shading is not maintained in the other columns.

Suggested Remedy
Remove the shading of the pad blocks and relabel the left-most column to just show 10976 blocks of 119b, as the details of which blocks are pad blocks are not really important to this figure.

Proposed Response Response Status O

Cl 155 SC 155.2.4.10 P46 L38 #21
Huber, Tom Nokia
Comment Type E Comment Status X
No need for a hyphen in "It adds 9-bits of parity..."

Suggested Remedy
To maximize clarity, reword as "It adds 9 parity bits..."

Proposed Response Response Status O

Cl 155 SC 155.2.5.6 P48 L50 #22
Huber, Tom Nokia
Comment Type T Comment Status X
The title of the clause is "CRC-32 check", but the text is mostly about error marking

Suggested Remedy
Revise the title to be "CRC-32 check and error marking"

Proposed Response Response Status O
Comment Type: E  Comment Status: X
There should be a hyphen in CRC32

Suggested Remedy
Change to CRC-32

Proposed Response: Response Status: O

Comment Type: T  Comment Status: X
Additional detail about the LDI field and how it relates to tx_am_sf<2:0> in clause 118 is needed.

Suggested Remedy
Add a cross-reference to the description of the LDI bits in the Transmit clause (this is currently 155.2.4.4.5, but may be changed to 155.2.4.4.3.2 based on another comment)

Proposed Response: Response Status: O

Comment Type: T  Comment Status: X
Detailed functions and state diagrams for 400GBASE-ZR PCS and PMA are needed.

Suggested Remedy
Contribution with proposed baseline text and figures will be made at a task force meeting. If the baseline is accepted, the editor's note can be removed. The task force could also decide that management details are not needed, in which case subclause 155.5 can be removed.

Proposed Response: Response Status: O

Comment Type: T  Comment Status: X
Loopback information is needed.

Suggested Remedy
Contribution with proposed baseline text and figures will be made at a task force meeting. If the baseline is accepted, the editor's note can be removed. The task force could also decide that loopback details are not needed, in which case subclause 155.6 can be removed.

Proposed Response: Response Status: O

Comment Type: T  Comment Status: X
PICS tables are needed.

Suggested Remedy
Contribution with proposed tables will be made at a task force meeting.

Proposed Response: Response Status: O
Table 156-6, Laser frequency noise mask. Eliminate TBDs?

**Proposed Response**
Make reference to 156.9.6 Laser frequency noise mask.

---

Receiver OSNR is only defined for average receive power ≥ -12 dBm

**Proposed Response**
Remove text "For average receive power < -12 dBm"

---

Receiver OSNR tolerance is only defined for average receive power ≥ -12 dBm

**Proposed Response**
Remove text "For average receive power ≥ –12 dBm" from receiver OSNR tolerance

---

**Proposed Response**
Remove the blank line

---

Interferometric crosstalk is not required to be specified for point-to-point applications.

**Proposed Response**
Remove Interferometric crosstalk from Table 156-8

---

**Proposed Response**
If my understanding is correct, the figure should be changed to reflect half the baud-rate.

---

Labeling on plot (Figure 156–5—Frequency vs spectral power density) needs to reflect the table values.

**Proposed Response**
change 1.0×10^6 to 10^6 (remove decimal) or 1.0e6

---

Table 156-7 has a blank line at the end of the table

**Proposed Response**
Remove the blank line
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**Comment Type** E Comment Status X
Add table reference for Receiver OSNR tolerance

**Suggested Remedy**
Change "Receiver OSNR tolerance" to "The Receiver OSNR tolerance is specified in Table 156-7. Receiver OSNR tolerance is defined…"

**Proposed Response**
Response Status O

---

**Comment Type** T Comment Status X
Optical Path Power penalty is not required for the defined application.

**Suggested Remedy**
Remove 156.9.20

**Proposed Response**
Response Status O

---

**Comment Type** TR Comment Status X
The first box of Figure 156-7 consists of a coherent receiver and the second box consists of the frontend correction. Both boxes make a calibrated coherent receiver.

**Suggested Remedy**
Rename the first box of Figure 156-7 as "Coherent Receiver" instead of "Calibrated Coherent Receiver"

**Proposed Response**
Response Status O

---

**Comment Type** TR Comment Status X
Requirements on the clock recovery unit should be included.

**Suggested Remedy**
Modify Figure 156-8 changing the second block as "Clock and Frequency Offset Recovery". Include at the beginning of subclause 156.10.1.2.2 the following text "A clock recovery with a corner frequency of TBD MHz and a slope of TBD dB/decade is applied on a fixed block length of TBD symbols."
Otherwise modify Figure 156-8 adding a block named "Clock Recovery" after the "Polarization Demux" block and add a new subclause (156.10.1.2.2) containing the following text "A clock recovery with a corner frequency of TBD MHz and a slope of TBD dB/decade is applied on a fixed block length of TBD symbols."

**Proposed Response**
Response Status O

---

**Comment Type** TR Comment Status X
There is a mismatch between the title of subclause 156.10.1.2.1 and the corresponding block in Figure 156-8.

**Suggested Remedy**
Rename subclause 156.10.1.2.1 as "Polarization Demux"

**Proposed Response**
Response Status O

---

**Comment Type** T Comment Status X
Number of block samples is TBD

**Suggested Remedy**
Replace TBD with "1000"

**Proposed Response**
Response Status O
### IEEE P802.3cw D1.2 400 Gb/s over DWDM systems 3rd Task Force review comments

<table>
<thead>
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<td>156</td>
<td>156.10.1.2.2</td>
<td>84</td>
<td>11</td>
<td>52</td>
<td>T</td>
<td>X</td>
<td>Number of symbols is TBD</td>
<td>Replace TBD with &quot;1000&quot;</td>
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<td>156.10.1.2.3</td>
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<td>13</td>
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<td>X</td>
<td>In Figure 156-8 there is a box &quot;Carrier Phase Recovery&quot; but no subclause is included to describe the functionality of this DSP block.</td>
<td>Add a new subclause 156.10.1.2.3 titled &quot;Carrier Phase Recovery&quot;. Description text is TBD.</td>
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<td>Number of symbols is TBD</td>
<td>Replace TBD with &quot;1000&quot;</td>
<td>O</td>
</tr>
</tbody>
</table>

**Issenhuth, Tom, Huawei**

**Proposed Response**

- Replace TBD with "1000"
- Change "I-Q offset" to "I-Q (max instantaneous)" and add entry for "I-Q (mean)" for subclause 156.9.12

**Suggested Remedy**

- Delete 156A.2 onward retaining 156A.1 which contains DWDM black link examples or remove the entire annex from the draft including references in clause 156.