D’Ambrosia, John
Futurewei, US Subsidiary of Huawei

Clark, John

Given the potential different stack configurations, this annex should be used to illustrate different examples with the different PCS / PMA

Presentation illustrating different concepts will be provided

Huber, Tom
Nokia

Multiple definitions are being added, so the editing instruction should use plural forms.

Change "definition" to "definitions"

Huber, Tom
Nokia

Multiple definitions are being added, so the editing instruction should use plural forms.

Change "abbreviation" to "abbreviations"

D’Ambrosia, John
Futurewei, US Subsidiary of Huawei

Clause 119 and 120 are not mandatory for 400GBASE-ZR

For 400GBASE-ZR - change Clause 119 and 120 from "M" to "O"

Huber, Tom
Nokia

FEC is being used as both a noun and an adjective in the sentence describing CFEC. While the usage throughout 802.3 is not entirely consistent, within a single sentence we probably should be consistent.

Change
"The transmit data is encoded with a concatenated forward error correction (CFEC) consisting of an inner SC-FEC code and an outer Hamming code SD-FEC."
to
"The transmit data is encoded with a concatenated forward error correction (CFEC) code consisting of an inner SC-FEC code and an outer Hamming SD-FEC code."

Huber, Tom
Nokia

The phrase ‘GMP mapped’ is often used colloquially, but it would be more clear in the text to say ‘mapped using GMP’

Change "The transcoded blocks are then GMP mapped into a 400GBASE-ZR Frame"
to
"The transcoded blocks are then mapped into a 400GBASE-ZR frame using GMP"

D’Ambrosia, John
Futurewei, US Subsidiary of Huawei

Clause 119 and 120 are not mandatory for 400GBASE-ZR

For 400GBASE-ZR - change Clause 119 and 120 from "M" to "O"
The description of the test pattern is grammatically awkward. The first sentence of the paragraph has already established that a test pattern is transmitted when the transmit channel is in test pattern mode. The second sentence is intended to indicate what the test pattern is.

**Suggested Remedy**

Change the second sentence: "The PCS shall provide transmit test-pattern mode for the scrambled idle pattern (see 119.2.4.9)." to "The transmitted test pattern shall be the scrambled idle pattern (see 119.2.4.9)."

**Proposed Response**

Response Status: O

---

Multiplication should be indicated with a multiplication symbol rather than an x.

**Suggested Remedy**

Replace $510 \times 512$ with $510 \times 512$

**Proposed Response**

Response Status: O

---

It would be more clear to describe demapping the MII explicitly rather than using vice versa.

**Suggested Remedy**

Change "The PCS maps the 400GBASE-ZR signal into 66 bit blocks, and vice versa using a 64B/66B coding scheme." to "The PCS maps the 400GBASE-ZR signal in 66b blocks, and demaps the 400GBASE-ZR signal from 66b blocks, using a 64B/66B coding scheme.

**Proposed Response**

Response Status: O
Comment Type: T  Comment Status: X

The AMs are used to locate the row that is the start of the frame, not the row number. There is also a stray comma before the parenthetical phrase.

Suggested Remedy:

Change:
AM alignment is processed post-FEC decode, after descrambling, to locate the row number corresponding to the start of the 400GBASE-ZR frame, (SC-FEC being already 10 970 bit row aligned).

AM alignment is processed post-EC decode, after descrambling, to locate the row corresponding to the start of the 400GBASE ZR frame (SC-FEC being already 10 970 bit row aligned).

Proposed Response  Response Status: O

Comment Type: E  Comment Status: X

The reference to G.709.1 at the end of the paragraph should be preceded by ITU-T

Suggested Remedy:

Insert "ITU-T" before "G.709.1".

Proposed Response  Response Status: O
The last two paragraphs would be better combined, with the clause in the first sentence of the final paragraph concerning the location of the MBAS field removed (that information is already provided in the first sentence of the next-to-last paragraph).

**Suggested Remedy**

Replace the last two paragraphs with:

Following the CRC-32 a 6-bit MBAS is added. The MBAS is used by the SC-FEC encoder and decoder to synchronize the state of the error de-correlator controllers between the receiver and the transmitter. The staircase FEC implementation uses a 7-bit MBAS which provides a 128-block sequence. The six most significant bits of the 7-bit MBAS are transferred between source and sink in the 6-bit MBAS overhead. The numerical value represented in the six MBAS overhead bits is incremented every two SC-FEC blocks and provides a 128-block multi-block.

**Proposed Response**

**Response Status** O

---

Multiplication should be indicated with a multiplication symbol rather than an italicized x.

**Suggested Remedy**

Replace the italicized x's in the formula with multiplication symbols.

**Proposed Response**

**Response Status** O

---

Missing a 'd' in 'illustrated'

**Suggested Remedy**

Change: "… which are added to the 400GBASE-ZR SC-FEC frame as illustrate in Figure 155–5." to "which are added to the 400GBASE-ZR SC-FEC frame as illustrated in Figure 155–5."

**Proposed Response**

**Response Status** O
IEEE P802.3cw D1.1 400 Gb/s over DWDM systems 2nd Task Force review comments

Comment Type: E  Comment Status: X

Cl 155  SC 155.2.4.9  P44  L20  # 24
Huber, Tom  Nokia

Bits should be spelled out, and no need to describe the size of the padding again here since it is already clearly described in 155.2.4.7

Suggested Remedy
Change the first sentence from:
"The scrambled output from the SC-encoder plus 6x119b padding is organized as 10 976 rows of 119b,..."
to:
"The scrambled output from the SC-encoder plus padding is organized as 10 976 rows of 119 bits,..."

Proposed Response  Response Status: O

Cl 155  SC 155.2.5.2  P47  L20  # 25
Huber, Tom  Nokia

Multiplication should be indicated with a multiplication symbol rather than an x.

Suggested Remedy
Replace the x's here and elsewhere on the page, including the end of 155.2.5.6 on the next page, with multiplication symbols.

Proposed Response  Response Status: O

Cl 155  SC 155.2.5.7  P48  L10  # 27
Huber, Tom  Nokia

The first sentence of the second paragraph is grammatically awkward

Suggested Remedy
Change "The beginning of each 400GBASE-ZR frame will have the AM and OH fields within the first 20 x 257B, and are repeated every 10 240 x 257B."
to:
The beginning of each 400GBASE-ZR frame will have the AM and OH fields within the first 20 x 257B, and these fields are repeated every 10 240 x 257B.

Proposed Response  Response Status: O

Cl 155  SC 155.3.2  P50  L41  # 28
Huber, Tom  Nokia

Multiplication should be indicated with a multiplication symbol rather than an x.

Suggested Remedy
Replace the x's in both formulas in the paragraph with multiplication symbols.

Proposed Response  Response Status: O

Cl 156  SC 156.1  P63  L12  # 29
Maniloff, Eric  Ciena

PHY shows 400GBASE-R PCS instead of 400GBASE-ZR PCS

Suggested Remedy
Replace 400GBASE-E with 400GBASE-ZR

Proposed Response  Response Status: O
IEEE P802.3cw D1.1 400 Gb/s over DWDM systems 2nd Task Force review comments

<table>
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<tr>
<th>Cl 156</th>
<th>SC 156.1</th>
<th>P 63</th>
<th>L 21</th>
<th># 55</th>
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**Suggested Remedy**
- update table to include clauses 119 and 120 as optional

**Proposed Response**
- Response Status: O

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<table>
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<tr>
<th>Cl 156</th>
<th>SC 156.1</th>
<th>P 63</th>
<th>L 25</th>
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**Suggested Remedy**
- Correct the clause 155 cross references

**Proposed Response**
- Response Status: O

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<th>Cl 156</th>
<th>SC 156.1.1</th>
<th>P 64</th>
<th>L 39</th>
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</table>

**Suggested Remedy**
- Change "additionally processed by the FEC (Clause 155) and PCS (Clause 119)." to "processed by the Clause 155 400GBASE-ZR PCS."

**Proposed Response**
- Response Status: O

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<table>
<thead>
<tr>
<th>Cl 156</th>
<th>SC 156.2</th>
<th>P 65</th>
<th>L 23</th>
<th># 29</th>
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<td>Since the value of SIGNAL_DETECT is fixed to OK, and therefore not dependent on the amount of light being received, the NOTE needs to be revised</td>
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**Suggested Remedy**
- Change

NOTE—SIGNAL_DETECT = OK does not guarantee that the rx_symbol parameters are known to be good. It is possible for a poor quality link to provide sufficient light for a SIGNAL_DETECT = OK indication and still not meet the BER defined in 156.1.1.

- Add location of definitions

**Proposed Response**
- Response Status: O

---

<table>
<thead>
<tr>
<th>Cl 156</th>
<th>SC 156.7.1</th>
<th>P 71</th>
<th>L 48</th>
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**Suggested Remedy**
- Add location of definitions

**Proposed Response**
- Response Status: O

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<table>
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<th>Cl 156</th>
<th>SC 156.7.2</th>
<th>P 73</th>
<th>L 3</th>
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</tr>
</tbody>
</table>

**Suggested Remedy**
- Add location of definitions

**Proposed Response**
- Response Status: O
Agreed upon language from 802.3ct, which is a ratified standard should be used in appropriate situations.

Suggested Remedy

- Under Value in Table 156-7, change:
  - The frequency in Table 156-4 corresponding to the variable Rx_optical_channel_index to
  - The frequency in Table 156-4 where the channel index number equals the variable Rx_optical_channel_index

Proposed Response

Receiver Sensitivity for an unamplified link should not be part of the same PMD as receiver sensitivity for an amplified link. This is a distinct application, and a receiver should not be burdened with a requirement to support both applications. Although the sensitivity spec in Table 156-7 is informative, other aspects of this application are normative. If this is a required application it should be defined as a separate PMD.

Suggested Remedy

- Remove sensitivity spec from Table 156-7, or modify to define a separate PMD supporting this.

Proposed Response

Sentence does not contain location of definitions.

Suggested Remedy

- Add location of definitions.

Proposed Response

Optical path power penalty for OSNR at TP3 ≥ 34dB is a separate application, and should be removed or applied to a separate PMD.

Suggested Remedy

- Remove power penalty from Table 156-8, or modify to indicate that this is applied to a separate PMD.

Proposed Response

Figure 156-4 is an imported pdf and appears fuzzy.

Suggested Remedy

- Update figure in native FrameMaker format to improve quality.

Proposed Response

Figure 156-5 is incomplete.

Suggested Remedy

- Complete figure 156-5 to be consistent with the figure in the published OIF 400ZR IA 13.1.210

Proposed Response
IEEE P802.3cw D1.1 400 Gb/s over DWDM systems 2nd Task Force review comments

Cl 156 SC 156.9.10 P79 L 18 # 59
Issenhuth, Tom Huawei
Comment Type T  Comment Status X
EVM definition in incomplete.
SuggestedRemedy
Update EVM definition based on output from EVM ad hoc
Proposed Response Response Status O

Cl 156A SC 156A.2 P89 L 37 # 51
D'Ambrosia, John Futurewei, US Subsidiary of Huawei
Comment Type TR  Comment Status X
The stated average receive power (min) is incorrectly stated as -16 dBm, when it should be -12 dBm -

The operating ranges in Figure 156A–3 can be roughly divided into 2 areas, one where the OSNR is between TBD dB (12.5 GHz) and TBD dB (12.5 GHz) together with an average optical power at TP3 between 0 dBm and –16 dBm
SuggestedRemedy
Change the -16 dBm in the noted sentence to -12, and modify the TBD in Fig 156A-3 to reflect this change in value.
Proposed Response Response Status O

Cl 156A SC 156A.3 P91 L 5 # 52
D'Ambrosia, John Futurewei, US Subsidiary of Huawei
Comment Type TR  Comment Status X
Stated channel output power range is incorrect
"should be amplified to a channel output range of –16 dBm to 0 dBm."

As noted in Table 156A-1, the range is -12 dBm to 0 dBm
SuggestedRemedy
modify noted -16 dBm to -12 dBm
also modify -16 dBm to -12 dBm throughout the rest of the subclause as appropriate
Proposed Response Response Status O