<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Suggested Remedy</th>
<th>Proposed Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>D</td>
<td>Don’t forget to update copyright year when producing the next draft.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>E</td>
<td>D</td>
<td>This line recurs at line 10</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>E</td>
<td>D</td>
<td>This front matter differs from P802.3/D3.0, I'm not sure which is most current. I don't have FrameMaker to check that, but this draft looks like the Word template content (mostly).</td>
<td>PROPOSED REJECT. IEEE P802.3cz/D1.2 follows the FrameMaker V5.0 template, dated 2 December 2021 (<a href="https://ieee802.org/3/tools/framemaker/index.html">https://ieee802.org/3/tools/framemaker/index.html</a>)</td>
</tr>
<tr>
<td>E</td>
<td>D</td>
<td>It appears that aPhyType is organized by speed in the first column, but not alphabetized, rather sorted within rate by clause number in the description column</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>E</td>
<td>D</td>
<td>The sort order in data rate introduction clauses like this are inconsistent when listing the PHY Types at a given data rate or ordering sublayers in various delay constraint tables. Comments have been entered on P802.3/D3.0 about this, and we need to remain aware if there are any changes to establish a more global sort order for such tables. This could affect our changes to Clauses 44, 105, 125, and 131.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

Grow, Robert
RMG Consulting / KDPOF

Torres, Luisma
KDPOF
Comment Type: E  Comment Status: D  PMA/PMD type selection

Description of PMA/PMD type selection should also indicate the PMA/PMD type abilities of the PMA/PMD are also advertised in the BASE-AU PMA/PMD extended ability register.

Suggested Remedy

Change the text of 45.2.1.6.3 as: “The PMA/PMD type of the PMA/PMD shall be selected
using bits 6 to 0. The PMA/PMD type abilities of the PMA/PMD are advertised in bits 7 and
through 0 of the PMA/PMD status 2 register; the PMA/PMD extended ability register; the
40G/100G PMA/PMD extended ability register; the 200G PMA/PMD extended ability
register; and the 400G PMA/PMD extended ability register; and the BASE-AU PMA/PMD
extended ability register.”

Proposed Response  
PROPOSED ACCEPT.

Comment Type: E  Comment Status: D  Text improvement

It should be indicated that the values "0000", "0001" (line 9), "0010" (line 10), "0011" line
11), and "0100" (line 12) are binary.

Suggested Remedy

add "the value of binary" before the numbers.

Proposed Response  
PROPOSED ACCEPT.

Comment Type: E  Comment Status: D  Text improvement

"change" occurs in plus and minus directions. Use of "increment" can simplify the
description.

Suggested Remedy

Change to "Bit 3.2330.12 is incremented by one bit by the BASE-U based PHY …” and
delete "acting as one bit sequence number"

Proposed Response  
PROPOSED REJECT. The TXO_MSGT is a single bit that effectively changes with each
new transmitted message

Comment Type: E  Comment Status: D  Text improvement

"change" occurs in plus and minus directions. Use of "increment" can simplify the
description.

Suggested Remedy

Change to "Bit 3.2339.12 is incremented by one bit …” and delete "acting as one bit
sequence number"

Proposed Response  
PROPOSED REJECT. The RXO_MSGT is a single bit that effectively changes with each
new received message
**IEEE P802.3cz D1.2 Multi-Gig Automotive Optical Ethernet PHY 2nd Task Force review comments**

**D 1.2 Comment Report**

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87b.5</th>
<th>P</th>
<th>34</th>
<th>L</th>
<th>16</th>
<th>#</th>
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<td>HAT Lab.</td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comment Type** E  **Comment Status** D  **E**

"to" is inconsistency of description.

**Suggested Remedy**

"through"

**Proposed Response**  **Response Status** W

PROPOSED REJECT. The meaning is "Up to the assignee of the OUI or CID"

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87b.5</th>
<th>P</th>
<th>34</th>
<th>L</th>
<th>16</th>
<th>#</th>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comment Type** E  **Comment Status** D  **EZ**

"content" should be plural.

**Suggested Remedy**

"contents"

**Proposed Response**  **Response Status** W

PROPOSED REJECT. Content is singular referring to a group of bits.

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87c.2</th>
<th>P</th>
<th>36</th>
<th>L</th>
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<th>102</th>
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<tbody>
<tr>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
<td></td>
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</tbody>
</table>

**Comment Type** T  **Comment Status** D  **Text improvement**

BASE-AU —> BASE-U (PCS).

**Suggested Remedy**

Replace BASE-AU with BASE-U.

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT.

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87c.2</th>
<th>P</th>
<th>36</th>
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<td>HAT Lab.</td>
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<td></td>
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<td></td>
<td></td>
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</tbody>
</table>

**Comment Type** E  **Comment Status** D  **Text improvement**

The description "(no loopback operation)" is inconsistent.

**Suggested Remedy**

"(no loopback mode)"

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT IN PRINCIPLE. Use "(no loopback)" as described in Table 45-313c.

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87c.2</th>
<th>P</th>
<th>36</th>
<th>L</th>
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<td></td>
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</tbody>
</table>

**Comment Type** E  **Comment Status** D  **Text improvement**

"Loopback modes are specified in 166.10." is redundant with information provided at the beginning of the same paragraph.

**Suggested Remedy**

Remove it

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT.

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87c.3</th>
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</table>

**Comment Type** E  **Comment Status** D  **Text improvement**

The meaning "no test mode is selected in 3.2348.15:13" is not clear.

**Suggested Remedy**

"a value of binary 000 in 3.2348.15:13" may be better.

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT.

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87c.4</th>
<th>P</th>
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<th>21</th>
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</table>

**Comment Type** E  **Comment Status** X  **Text improvement**

No instruction what operation causes "PMA reset"

**Suggested Remedy**

Add "see 166.3.4.1 for details".

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT IN PRINCIPLE. Add "(see 166.3.4.1)".

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>45.2.3.87c.4</th>
<th>P</th>
<th>36</th>
<th>L</th>
<th>21</th>
<th>#</th>
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<tbody>
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</table>

**Comment Type** E  **Comment Status** X  **Text improvement**

No instruction what operation causes "PMA reset"

**Suggested Remedy**

Add "see 166.3.4.1 for details".

**Proposed Response**  **Response Status** W

PROPOSED ACCEPT IN PRINCIPLE. Add "(see 166.3.4.1)".

**TYPE:** TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general

**COMMENT STATUS:** D/dispatched  A/accepted  R/rejected  RESPONSE STATUS: O/open  W/written  C/closed  Z/withdrawn

**SORT ORDER:** Clause, Subclause, page, line

**Page 3 of 31**

**03/01/2022 13:43:08**
Cl 45 SC 45.2.3.87d.4 P 36 L 18,19 # 103
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D Text improvement
BASE-AU → BASE-U (PCS).

Suggested Remedy
Replace BASE-AU with BASE-U.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 45 SC 45.2.3.87d.13 P 39 L 3,4,5 # 105
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D Text improvement
BASE-AU → BASE-U (PCS).

Suggested Remedy
Replace BASE-AU with BASE-U.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 45 SC 45.2.3.87d.14 P 39 L 12 # 50
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D Text improvement
When read as one, bit 3.24.0 indicates ...

Suggested Remedy
Should be: When read as one, bit 3.2349.0 indicates ...

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 45 SC 45.2.3.87d.9 P 38 L 28 # 104
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D Text improvement
Only refresh is transmitted.

Suggested Remedy
Replace "transmitting refresh and quiet" with "transmitting refresh".

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 45 SC 45.2.3.87d.10 P 38 L 34 # 49
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D Text improvement
Only refresh is received.

Suggested Remedy
Replace "refresh and quiet" with "refresh".

Proposed Response Response Status W
PROPOSED ACCEPT.
<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>P</th>
<th>L</th>
<th>#</th>
<th>Comment</th>
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<th>Response Status</th>
<th>Comment</th>
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<th>Status</th>
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<tbody>
<tr>
<td>45</td>
<td>45.2.3.87h</td>
<td>40</td>
<td>36</td>
<td>76</td>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
<td>RS-FEC block error counter does not need of BER test mode to operate. It can also work in normal operation mode. The RS-FEC decoder knows for each processed codeword when the correction capability has been overpassed. The error detection capability is double compared with correction capability (22 10-bit symbols vs 11 10-bit symbols), so RS-FEC decoder can indicate a CW is erroneous in its output with high confidence.</td>
<td>RS-FEC counter</td>
<td>T</td>
<td>D</td>
<td>Change: “A 16-bit counter used when operating in BER test mode” to: “A 16-bit counter when operating in normal and BER test modes”</td>
<td>W</td>
<td>PROPOSED ACCEPT.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>45</td>
<td>45.5.3.7</td>
<td>42</td>
<td>47</td>
<td>12</td>
<td>Hayashi, Takehiro</td>
<td>HAT Lab.</td>
<td>The description ”(no loopback operation)” is inconsistent.</td>
<td>Text improvement</td>
<td>E</td>
<td>X</td>
<td>“(no loopback mode)”</td>
<td>W</td>
<td>PROPOSED ACCEPT IN PRINCIPLE. Use “no loopback” as described in Table 45-3.13c.</td>
<td></td>
<td></td>
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<tr>
<td>78</td>
<td>78.1.4</td>
<td>45</td>
<td>16</td>
<td>109</td>
<td>Grow, Robert</td>
<td>RMG Consulting / KDPOF</td>
<td>This table doesn’t have a consistent sort order beyond grouping by data rate.</td>
<td>Text improvement</td>
<td>E</td>
<td></td>
<td>“to” is inconsistency of description.</td>
<td>W</td>
<td>PROPOSED ACCEPT.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>105</td>
<td>105.1.1</td>
<td>47</td>
<td>18</td>
<td>170</td>
<td>Grow, Robert</td>
<td>RMG Consulting / KDPOF</td>
<td>Recommend rewriting to eliminate the list of PHY types as we did for Clause 44.</td>
<td>Text improvement</td>
<td>E</td>
<td>D</td>
<td>&quot;through&quot;</td>
<td>W</td>
<td>PROPOSED ACCEPT.</td>
<td></td>
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</tr>
</tbody>
</table>

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line
Cl  105 SC  105.1.3  P  49 L 27 #  41
Pérez - Aranda, Rubén KDPOF
Comment Type  E  Comment Status  D  Text improvement
Table 105-1, Table 125-1 and 131-1 do not use consistent wording. Unify three tables with same wording.

SuggestedRemedy
Replace with: 25 Gb/s PHY using 64B/65B and Reed-Solomon encoding with NRZ modulation over optical fiber for use in automotive applications (see Clause 166).

Proposed Response  Response Status  W
PROPOSED ACCEPT.

Cl  116 SC  116.12.1  P 113 L  17 #  138
Pérez - Aranda, Rubén KDPOF
Comment Type  T  Comment Status  D  Text improvement
Reduce examples list. BASE-AU are targeted to automotive.

SuggestedRemedy
change to: "(e.g., automotive)"

Proposed Response  Response Status  W
PROPOSED ACCEPT.

Cl  116 SC  116.12.1  P 113 L 21 #  139
Pérez - Aranda, Rubén KDPOF
Comment Type  T  Comment Status  D  Temperature grades
Temperature classes and nomenclature are not consistent with the ones used in the qualification of ICs in the automotive industry, i.e. AEC-Q100.

SuggestedRemedy
Change “temperature classes” to “temperature grades” Change table content to be: Grade 0, -40ºC to +150ºC Grade 1, -40ºC to +125ºC Grade 2, -40ºC to +105ºC Grade 3, -40ºC to +85ºC Grade 4, 0ºC to +70ºC Temperatures are Ambient Operating Temperature Range. Ambient temperature refers to the ambient temperature inside the electronics computing unit (ECU) or equipment where a BASE-AU PHY is integrated.

Proposed Response  Response Status  W
PROPOSED ACCEPT.

Cl  125 SC  125.1.4  P  55 L 17 #  171
Grow, Robert RMG Consulting / KDPOF
Comment Type  E  Comment Status  D  or P802.3 comment resolution
It appears that this table is in 802.3 alphanumeric order, which makes the insert point the wrong place.

SuggestedRemedy
Determine if 802.3 alphanumeric order is to be used, and is so the AU inserts belong at the beginning of the list for each data rate as was done for Table 125-2 and Table 125-3.

Proposed Response  Response Status  W
PROPOSED ACCEPT.
### Comment 43
**Comment Type:** E  
**Comment Status:** D  
**Type:** Text improvement  
**Suggested Remedy:** Amend for consistency with 105.

**Proposed Response:** PROPOSED ACCEPT.

**Response Status:** W

---

### Comment 42
**Comment Type:** E  
**Comment Status:** D  
**Type:** Text improvement  
**Suggested Remedy:** Replace with: 50 Gb/s PHY using 64B/65B and Reed-Solomon encoding with PAM4 modulation over optical fiber for use in automotive applications (see Clause 166).

**Proposed Response:** PROPOSED ACCEPT.

**Response Status:** W

---

### Comment 44
**Comment Type:** E  
**Comment Status:** D  
**Type:** Text improvement  
**Suggested Remedy:** 50GBASE-AU PCS is specified in Clause 166.

**Proposed Response:** PROPOSED ACCEPT.

**Response Status:** W

---

### Comment 52
**Comment Type:** T  
**Comment Status:** D  
**Type:** Text improvement  
**Suggested Remedy:** Should be: ... specifications subject to frequency scaling and modulation scheme.

**Proposed Response:** PROPOSED ACCEPT.

**Response Status:** W

---

### Comment 13
**Comment Type:** E  
**Comment Status:** D  
**Type:** Text improvement  
**Suggested Remedy:** 50GBASE-AU PCS is specified in Clause 166.

**Proposed Response:** PROPOSED ACCEPT.

**Response Status:** W

---

### Comment 131
**Comment Type:** E  
**Comment Status:** D  
**Type:** Text improvement  
**Suggested Remedy:** 50GBASE-AU use the PMD and its corresponding media specified in Clause 166.

**Proposed Response:** PROPOSED ACCEPT.

**Response Status:** W

---

### Comment 166
**Comment Type:** T  
**Comment Status:** D  
**Type:** Text improvement  
**Suggested Remedy:** Change to  
"While the transmission in the optical fiber is single directional, the transmission in one optical fiber is counter directional against the transmission in the other optical fiber. BASE-AU ports are on the both ends of the link segment."

**Proposed Response:** PROPOSED ACCEPT IN PRINCIPLE:  
Change "Each fiber is used for unidirectional transmission with the BASE-AU port on one end of the link segment transmitting on one fiber and receiving on the second fiber." by "Each fiber is used for unidirectional transmission with the BASE-AU port on one end of the link segment transmitting on one fiber and receiving on the other fiber."

**Response Status:** W

---

---

**TYPE:** TR/technical required  
**ER/editorial required:** G/general required  
**T/technical:** G/general  
**G/general:**

**COMMENT STATUS:** D/dispatched  
A/accepted  
R/rejected  
**RESPONSE STATUS:** O/open  
W/written  
C/closed  
Z/withdrawn

**SORT ORDER:** Clause, Subclause, page, line
**Comment Type**: E  |  **Comment Status**: D  |  **Suggested Remedy**: The crossover cabling is required.

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE. Change "A cross-over in the cabling connects the link partner’s PMD transmitter to the link partner’s PMD receiver, and the link partner’s PMD transmitter to the local PMD receiver." by "The local PMD transmitter and PMD receiver are connected to the link partner’s PMD receiver and PMD transmitter, respectively, by means of a cross-over in the optical cable."

---

**Comment Type**: E  |  **Comment Status**: D  |  **Suggested Remedy**: "Type" typo

**Proposed Response**

PROPOSED ACCEPT.
The fixed-length Transmit Block …

Suggested Remedy
Should be: A fixed-length Transmit Block … First time introduced.

Proposed Response
Response Status W
PROPOSED ACCEPT.

The acronym LFSR is used, but not included in clause 1.5 abbreviations (neither 802.3-
2018)

Suggested Remedy
Two options: Add LFSR to C/1.5 as linear feedback shift register or expand acronym in all
the occurrences in the text.

Proposed Response
Response Status W
PROPOSED ACCEPT IN PRINCIPLE. Add LFSR to C/1.5 as "linear feedback shift register"

… provides clock recovery …

Suggested Remedy
Should be: "… provides clock and data recovery …" Data recovery may need equalization,
etc. and it is the final end of the PMA RX.

Proposed Response
Response Status W
PROPOSED ACCEPT.
Cl 166  SC 166.1.4  P 66  L 28  # 60
Pérez - Aranda, Rubén  KDPOF
Comment Type E  Comment Status D  Text improvement
Suggest to replace “Equalizer” with “Data recovery”. Equalizer is not mandatory, it is up to the implementor. Though spec allows training of an equalizer, and equalizer may improve the RX sensitivity, there may be interoperable implementations that do not implement equalizer.
SuggestedRemedy
Replace “Equalizer” with “Data recovery”
Proposed Response  Response Status W
PROPOSED ACCEPT.

Cl 166  SC 166.2.1  P 67  L 34  # 61
Pérez - Aranda, Rubén  KDPOF
Comment Type E  Comment Status D  Text improvement
codified
SuggestedRemedy
Most extended use is: encoded
Proposed Response  Response Status W
PROPOSED ACCEPT.

Cl 166  SC 166.2.1  P 67  L 36  # 62
Pérez - Aranda, Rubén  KDPOF
Comment Type E  Comment Status D  Text improvement
The Physical Header path
SuggestedRemedy
Change to: The Physical Header data path
Proposed Response  Response Status W
PROPOSED ACCEPT.

Cl 166  SC 166.2.1  P 67  L 38  # 63
Pérez - Aranda, Rubén  KDPOF
Comment Type E  Comment Status D  Text improvement
checksum, that is concatenated at the end of the PHD
SuggestedRemedy
checksum, which is concatenated at the end of the PHD
Proposed Response  Response Status W
PROPOSED ACCEPT.

Cl 166  SC 166.2.1  P 68  L 2  # 68
Pérez - Aranda, Rubén  KDPOF
Comment Type E  Comment Status X  LFSR
The acronym LFSR is used, but not included in clause 1.5 abbreviations (neither 802.3-2018)
SuggestedRemedy
Two options: Add LFSR to C/1.5 as linear feedback shift register or expand acronym in all the occurrences in the text.
Proposed Response  Response Status W
PROPOSED ACCEPT IN PRINCIPLE. Add LFSR to C/1.5 as “linear feedback shift register”
<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Suggested Remedy</th>
<th>Proposed Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>PCS bit ordering</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>E</td>
<td>Text improvement</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>E</td>
<td>Replace with: PCS transmit bit ordering</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>E</td>
<td>No figure to show the PCS receiving function.</td>
<td>PROPOSED REJECT.</td>
</tr>
<tr>
<td>T</td>
<td>Paragraph of lines 6 through 8 is not complete in summarizing PCS RX function.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>T</td>
<td>Replace with: The PCS receive function comprises binary descrambling, RS-FEC decoding of the received Transmit Block, 65B/64B decoding of payload portion to extract the xMII receive data stream, and TRC decoding and CRC16 checking of the PHD. The decoded PHD is also provided to the PMA sublayer for coordinated control of local and remote PHYs.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>
Upon PHD reception,

**Suggested Remedy:**
Should be: Upon reception of valid PHD,

**Proposed Response:**

<table>
<thead>
<tr>
<th>Cl 166 SC 166.2.2.1.1</th>
<th>P 69 L 21 # 71</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
</tr>
<tr>
<td><strong>Comment Type:</strong> T</td>
<td><strong>Comment Status:</strong> D</td>
</tr>
<tr>
<td><strong>Text improvement:</strong></td>
<td></td>
</tr>
</tbody>
</table>

Then, the second 20-bit chunk is processed, repeated three times, and concatenated to the three 20-bit chunks resulting of the processing of the first 20-bit chunk. What is the meaning of "processed". In my opinion nothing and it may be confuse in understanding the

**Suggested Remedy:**
Should be: Then, the second 20-bit chunk is repeated three times and concatenated to the three times repeated 20-bit of the first chunk.

**Proposed Response:**

<table>
<thead>
<tr>
<th>Cl 166 SC 166.2.2.2</th>
<th>P 72 L 5 # 75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
</tr>
<tr>
<td><strong>Comment Type:</strong> T</td>
<td><strong>Comment Status:</strong> D</td>
</tr>
<tr>
<td><strong>Text improvement:</strong></td>
<td></td>
</tr>
</tbody>
</table>

"structured into 36 groups of 80 65-bit blocks". The 64B/65B encoder processes the xMII input regardless the Transmit Block structure, without awareness of groups.

**Suggested Remedy:**
Replace with: "equivalent to 2880 65-bit blocks".

**Proposed Response:**

<table>
<thead>
<tr>
<th>Cl 166 SC 166.2.2.4</th>
<th>P 72 L 45 # 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
</tr>
<tr>
<td><strong>Comment Type:</strong> E</td>
<td><strong>Comment Status:</strong> D</td>
</tr>
<tr>
<td><strong>Text improvement:</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Suggested Remedy:**
Per comment, correct in all the occurrences. At least unify. My preference is 10-bit.

**Proposed Response:**

<table>
<thead>
<tr>
<th>Cl 166 SC 166.2.2.4</th>
<th>P 72 L 45 # 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
</tr>
<tr>
<td><strong>Comment Type:</strong> E</td>
<td><strong>Comment Status:</strong> D</td>
</tr>
<tr>
<td><strong>Text improvement:</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Suggested Remedy:**
Per comment, correct in all the occurrences. At least unify. My preference is 10-bit.

**Proposed Response:**

<table>
<thead>
<tr>
<th>Cl 166 SC 166.2.2.4</th>
<th>P 72 L 45 # 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
</tr>
<tr>
<td><strong>Comment Type:</strong> E</td>
<td><strong>Comment Status:</strong> D</td>
</tr>
<tr>
<td><strong>Text improvement:</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Suggested Remedy:**
Per comment, correct in all the occurrences. At least unify. My preference is 10-bit.

**Proposed Response:**

<table>
<thead>
<tr>
<th>Cl 166 SC 166.2.2.4</th>
<th>P 72 L 45 # 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pérez - Aranda, Rubén</td>
<td>KDPOF</td>
</tr>
<tr>
<td><strong>Comment Type:</strong> E</td>
<td><strong>Comment Status:</strong> D</td>
</tr>
<tr>
<td><strong>Text improvement:</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Suggested Remedy:**
Per comment, correct in all the occurrences. At least unify. My preference is 10-bit.

**Proposed Response:**
Cl 166 SC 166.2.2.5 P74 L46 # 89

Pérez - Aranda, Rubén KDPOF

Comment Type E Comment Status D LFSR

It is not clear which shift register is.

SuggestedRemedy

Change to: The linear feedback shift register of the binary scrambler shall be initialized …

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.2.5 P74 L46 # 85

Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D LFSR

According to resolution of comment #82 to draft D1.0, it was agreed per https://www.ieee802.org/3/cz/public/may_2021/perezaranda_3cz_04_0521_lfsr.pdf to include an annex with example LFSR sequence. Only data belonging to the beginning and to the end of the Transmit Block would be provided in tabular form as example to allow implementation verification in an informative annex. Annex has not been implemented.

SuggestedRemedy


Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.2.5 P74 L47 # 86

Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D LFSR

According to resolution of comment #82 to draft D1.0, it was agreed per https://www.ieee802.org/3/cz/public/may_2021/perezaranda_3cz_04_0521_lfsr.pdf to include an annex with example LFSR sequence. Because the shift register is initialized with different value depending on the parameter G (1 or 2), example sequence should be provided for both initialization values.

SuggestedRemedy

Rubén Pérez-Aranda to generate similar tables of those for resolution of comment 82 for D1.0, but considering init value for G=2. To include examples for G=1 and G=2 in the same missing annex.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. A presentation including 50GBASE-U LFSR (G=2) (perezaranda_3cz_02_220111_LFSR) has been received for discussion.
“PCS Physical Header Data transmit bit ordering” belongs to PCS transmit function. It should be sub-clause 166.2.2.6. The same for “PCS transmit bit ordering” should be 166.2.2.7. “PCS transmit process” should be 166.2.2.8. “PCS 64B/65B transmission”, should be 166.2.2.9. Based on same logics, “PCS receive function” should new 166.2.3, and “PCS 64B/65B reception” should be 166.2.3.7.

Suggested Remedy

Per comment

PROPOSED ACCEPT IN PRINCIPLE. Change 166.2 hierarchy to:

- 166.2.1 PCS functions
- 166.2.2 PCS transmit function
  - 166.2.2.1 Physical header data path
    - 166.2.2.1.1 Physical header data (PHD) structure
    - 166.2.2.1.2 Physical header encoding
    - 166.2.2.1.3 Physical header CRC16
    - 166.2.2.1.4 Physical header three repetition code (TRC)
    - 166.2.2.2 Payload data path
    - 166.2.2.3 PCS transmit ordering
  - 166.2.2.4 RS-FEC encoder
  - 166.2.2.5 Binary scrambler
  - 166.2.2.6 PCS physical header data transmit bit order
  - 166.2.2.7 PCS transmit bit order
  - 166.2.2.8 PCS 64B/65B encoding
    - 166.2.2.8.1 Notation conventions
    - 166.2.2.8.2 65-bit block structure
    - 166.2.2.8.3 Control codes
      - 166.2.2.8.3.1 Idle (/Il)
      - 166.2.2.8.3.2 LPI (/Lli)
      - 166.2.2.8.3.3 Start (/Si)
      - 166.2.2.8.3.4 Terminate (/Tt)
      - 166.2.2.8.3.5 Ordered set (/O)
      - 166.2.2.8.3.6 Error (/Er)
  - 166.2.2.9 PCS 64B/65B transmit state diagram parameters
    - 166.2.2.9.1 Constants
    - 166.2.2.9.2 Variables
    - 166.2.2.9.3 Functions
  - 166.2.2.10 PCS 64B/65B transmit state diagram
  - 166.2.3 PCS receive function
    - 166.2.3.1 Binary descrambler
    - 166.2.3.2 RS-FEC decoder
    - 166.2.3.3PCS receiver ordering
    - 166.2.3.4 PHD decoding
    - 166.2.3.5 Invalid 65-bit blocks
- 166.2.3 PCS 64B/65B receive state diagram

The titles of Figure 166-12 and 166-13 should be harmonized.

Suggested Remedy

Use either of "65-bit block" or "64B/65B block" for both figures

PROPOSED ACCEPT IN PRINCIPLE. Replace "64B/65B block" by "65-bit block" in Figure 166-12 caption

PCS transmit state machine

rx_block are from PCS receive functions. They should be defined in that corresponding section, not here.

Suggested Remedy

Move to “PCS 64B/65B reception”

PROPOSED ACCEPT IN PRINCIPLE. Add a reference to 166.2.5.1 Notation conventions in PCS 64B/65B reception section to avoid spread of notation along the document.
Comment Type: T  Comment Status: D  Overspecification

Suggested Remedy
- Remove line

Proposed Response  Response Status: W
- PROPOSED ACCEPT IN PRINCIPLE.

Move definition of tx_xmii_enable in page 96 line 27 to PCS 64B/65B transmit state variables, amending the text for value false as:
FALSE: The 64B/65B encoder does not encode the xMII transmit data stream. Local Fault ordered set(s) are encoded in transmitted 65-bit blocks, which may be used by the link partner receiver as pre-known sequence to support clock and data recovery.

Move definition of sotxb_synch in page 96 line 16 and rx_xmii_enable in page 96 line 22 to PCS 64B/65B receive state variables

Delete pcs_reset from PCS 64B/65B receive state variables, because already defined before

Comment Type: T  Comment Status: D  Overspecification

The shall statement should be for the complete PCS 64B/65B transmit state diagram. Generation of LBLOCK_T is already in the state diagram, controlled by the variable tx_xmii_enable in the input to the first state.

Suggested Remedy
- Remove full paragraph

Proposed Response  Response Status: W
- PROPOSED ACCEPT.

The PCS transmit process shall generate 65-bit blocks as specified in the PCS 64B/65B transmit state diagram (see 166.2.6.2, and Figure 166–16).

This is the real specification. It should include shall statement.

Suggested Remedy
- Replace paragraph as: “The PCS transmit process shall generate 65-bit blocks as specified in the PCS 64B/65B transmit state diagram (see 166.2.6.2, and Figure 166–16).”

Proposed Response  Response Status: W
- PROPOSED ACCEPT IN PRINCIPLE.

Modify page 72 line 3 to be “The incoming data from the xMII shall be encapsulated and encoded into 65-bit blocks (64B/65B encoder in Figure 166–7) for transmission as specified by PCS 64B/65B transmit state diagram (see 166.2.6.2, and Figure 166–16).”
Cl 166 SC 166.2.5.3 P 79 L 12 # 132
Pérez - Aranda, Rubén KDPOF
Comment Type: E Comment Status: D Text improvement
“The format of the 65-bit blocks for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PCS is as shown ...” A more compact form, and taking into account it is about PCS spec: “The format of the 65-bit blocks for BASE-U PCS connected to XGMII/25GMII is as shown ...”
Suggested Remedy
Check full PCS spec and replace to use compact form and avoid the use of BASE-AU instead of BASE-U, in order to be consistent with other sections (PMA, EEE, ...) PROPOSED ACCEPT.

Cl 166 SC 166.2.5.3 P 80 L 34 # 99
Pérez - Aranda, Rubén KDPOF
Comment Type: T Comment Status: D LPI
All unused values of block type field are reserved. Not 100% accurate, because 0x00 is used in LPI operation to indicate refresh and wake.
Suggested Remedy
Change to read: “All unused values of block type field are not valid in normal operation. 0x00 is reserved for LPI mode to indicate refresh and wake (see 166.4).
Proposed Response Response Status: W
PROPOSED ACCEPT.

Cl 166 SC 166.2.5.4 P 81 L 1 # 100
Pérez - Aranda, Rubén KDPOF
Comment Type: T Comment Status: D Control codes
The control codes in table 166-4 are valid for XGMII and 25GMII. However, some of them (reserved 0 to 5) are not valid for 5GMII/XLGMII, at least not defined before. Two separated tables should be used for XGMII/25GMII and 50GMII.
Suggested Remedy
Use two separate tables per comment, as in clause 113, and modify text accordingly.
Proposed Response Response Status: W
PROPOSED ACCEPT. Use Table 113-1 and Table 113-2 as reference.

Cl 166 SC 166.2.5.9 P 82 L 42 # 107
Pérez - Aranda, Rubén KDPOF
Comment Type: T Comment Status: D Overspecification
This paragraph is redundant with the state diagrams specifications and does not additonal specification. “Training mode” is a consequence of the Link Monitor state diagram, the 64B/65B transmit state diagram, and LFSR set to defined initial value at the beginning of a Transmit Block. Training mode is not a specification.
Suggested Remedy
Remove paragraph.
Proposed Response Response Status: W
PROPOSED ACCEPT IN PRINCIPLE.

Cl 166 SC 166.2.6.1.1 P 83 L 18 # 121
Pérez - Aranda, Rubén KDPOF
Comment Type: E Comment Status: D Document layout
166.2.6.1.1 should be 166.2.6.2, 166.2.6.1.2 should be 166.2.6.3, therefore 166.2.6.2 will be 166.2.6.4.
Suggested Remedy
Per comment.
Proposed Response Response Status: W
PROPOSED ACCEPT IN PRINCIPLE. See #92
The format for this vector is shown in Figure 166–14 for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, and Figure 166-15 for 50GBASE-AU PHY.

**Suggested Remedy:** Replace with: “The format for this vector is shown in Figure 166–14 for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, and Figure 166-15 for 50GBASE-AU PHY.”

**Proposed Response:** PROPOSED ACCEPT.

---

For 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, vector containing two successive XGMII or 25GMII transfers. A more compact form, and taking into account it is about PCS spec: “For a BASE-U PCS connected to XGMII/25GMII, vector containing two successive transfers.”

**Suggested Remedy:** Check full PCS spec and replace to use compact form and avoid the use of BASE-AU instead of BASE-U, in order to be consistent with other sections (PMA, EEE, …)

**Proposed Response:** PROPOSED ACCEPT. Same as #132.

---

For 50GBASE-AU PHY, vector containing a single 50GMII transfer. A more compact form, and taking into account it is about PCS spec: “For BASE-U PCS connected to 50GMII, vector containing a single transfer.”

**Suggested Remedy:** Check full PCS spec and replace to use compact form and avoid the use of BASE-AU instead of BASE-U, in order to be consistent with other sections (PMA, EEE, …)

**Proposed Response:** PROPOSED ACCEPT.
Cl 166 SC 166.2.6.1.2 P 84 L 3 # 18
Hayashi, Takehiro HAT Lab.
Comment Type: E Comment Status: D Document layout
incorrect indent
SuggestedRemedy
align the leftmost letter to the previous line.

Proposed Response Response Status: W
PROPOSED REJECT. The indentation follows the IEEE 802.3 rules (see, i.e., IEEE Draft P802.3/D2.2, page 4623 line 20, 113.3.6.2.4)

Cl 166 SC 166.2.6.1.2 P 84 L 13 # 19
Hayashi, Takehiro HAT Lab.
Comment Type: E Comment Status: X Document layout
same as above
SuggestedRemedy same as above

Proposed Response Response Status: W
PROPOSED REJECT. The indentation follows the IEEE 802.3 rules (see, i.e., IEEE Draft P802.3/D2.2, page 4623 line 20, 113.3.6.2.4)

Cl 166 SC 166.2.7 P 84 L 37 # 123
Pérez - Aranda, Rubén KDPOF
Comment Type: T Comment Status: D Text improvement
"including compliance with the associated state variables as specified in 166.2.8.1.1." Compliance should be with associated state functions and constants as well. However, compliance with variables, constants, counters and functions of a state diagram is implicit with being compliance with the state diagram itself.

SuggestedRemedy
Remove "including compliance with the associated state variables as specified in 166.2.8.1.1."

Proposed Response Response Status: W
PROPOSED ACCEPT.
When the xMII and PMA sublayer data rates are not synchronized, the receive process inserts idles, deletes 5 idles, or deletes sequence ordered sets to adapt between rates. This is confuse. PMA recovers data and clock, which are provided to PCS. The xMII is source synchronous, so the clock is defined by the PCS. If different clock domains are used for each sublayer is a matter of implementation, nothing to do with interoperability. Rate matching is performed in the PCS transmit function. See 166.2.5.

Suggested Remedy
Remove paragraph.

PROPOSED ACCEPT.

The location of Figure 166-17 is in clause 166.2.8.1.1, and it is confusing

Suggested Remedy
Move the figure 166-17 in clause 166.2.7

PROPOSED ACCEPT IN PRINCIPLE. PCS receive bit ordering should be first, PCS mapping from a 65-bit block to the XGMII or 25GMII second, and PCS mapping from a 65-bit block to the 50GMII third.

Suggested Remedy
Move the figure 166-17 before the figure 166-18.

PROPOSED ACCEPT IN PRINCIPLE. PCS receive bit ordering should be first, PCS mapping from a 65-bit block to the XGMII or 25GMII second, and PCS mapping from a 65-bit block to the 50GMII third.

Suggested Remedy
Move the figure 166-19 in clause 166.2.7

PROPOSED ACCEPT IN PRINCIPLE. PCS receive bit ordering should be first, PCS mapping from a 65-bit block to the XGMII or 25GMII second, and PCS mapping from a 65-bit block to the 50GMII third.
Cl 166 SC 166.2.7 P92 L3 # 22
Hayashi, Takehiro
HAT Lab.
Comment Type E Comment Status X Document layout
The location of Figure 166-20 is in clause 166.3.1, and it is confusing.
SuggestedRemedy
Move the figure 166-20 in clause 166.2.7
Proposed Response Response Status W
PROPOSED REJECT. This draft follows
"https://mentor.ieee.org/myproject/Public/mytools/draft/styleman.pdf". In page 33 can be read "Figures should be organized to fit on a single page with the term, "Figure" and the figure number, followed by an em dash and the figure title, centered below the figure, as follows: "Figure 1—Title.". The FrameMaker V5.0 template automatically arranges the figures in the document layout.

Cl 166 SC 166.2.7 P93 L6 # 23
Hayashi, Takehiro
HAT Lab.
Comment Type E Comment Status X Document layout
The location of Figure 166-21 is in clause 166.3.1, and it is confusing.
SuggestedRemedy
Move the figure 166-21 in clause 166.2.7
Proposed Response Response Status W
PROPOSED REJECT. This draft follows
"https://mentor.ieee.org/myproject/Public/mytools/draft/styleman.pdf". In page 33 can be read "Figures should be organized to fit on a single page with the term, "Figure" and the figure number, followed by an em dash and the figure title, centered below the figure, as follows: "Figure 1—Title.". The FrameMaker V5.0 template automatically arranges the figures in the document layout.

Cl 166 SC 166.2.7.1 P86 L19 # 115
Pérez - Aranda, Rubén
KDPOF
Comment Type T Comment Status D Text improvement
"using the same polynomial". To be accurate, it is the same linear-feedback shift register, not just polynomial.
SuggestedRemedy
Change to: "using the same LFSR with same initialization value"
Proposed Response Response Status W
PROPOSED ACCEPT.
<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>P</th>
<th>L</th>
<th>#</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Proposed Response</th>
<th>Response Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>119</td>
<td>166</td>
<td>166.2.7.5</td>
<td>86</td>
<td>49</td>
<td>T</td>
<td>D</td>
<td>Not clear what is payload.</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>166</td>
<td>166.2.7.5</td>
<td>86</td>
<td>51</td>
<td>T</td>
<td>D</td>
<td>Change to: &quot;The 65-bit block contains information from an invalid RS-FEC codeword&quot;</td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>121</td>
<td>166</td>
<td>166.2.7.5</td>
<td>86</td>
<td>46</td>
<td>T</td>
<td>D</td>
<td>Wrong cross reference. Redundant specification.</td>
<td></td>
</tr>
<tr>
<td>122</td>
<td>166</td>
<td>166.2.8.1.1</td>
<td>87</td>
<td>48</td>
<td>E</td>
<td>D</td>
<td>166.2.8.1.1 should be 166.2.8.2, 166.2.8.1.2 should be 166.2.8.3, 166.2.8.1.3 should be 166.2.8.4, therefore 166.2.8.2 will be 166.2.8.5.</td>
<td>PROPOSED ACCEPT IN PRINCIPLE. See #92</td>
</tr>
<tr>
<td>123</td>
<td>166</td>
<td>166.2.8.1.2</td>
<td>89</td>
<td>46</td>
<td>T</td>
<td>D</td>
<td>The DECODE function shall decode the rx_block based on code specified in 166.2.5.4.</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

**Proposed Response**

Replace lines 44 to 54 by:

"A 65-bit block is invalid and its R_BLOCK_TYPE set to /E/ if any of the following conditions exist:

a) The block type fields contains reserved value (see 166.2.8.1.2).

b) Any control character contains a value not in Table 166-44 and Table 166-xxx (see 166.2.8.1.2).

c) Any O code contains a value not in Table 166-44 and Table 166-xxx (see 166.2.8.1.2).

d) The 65-bit block contains information from the payload of an invalid RS-FEC codeword (see 166.2.7.2)."

Table 166-xxx is a new table to be included if comment #100 is approved.

Replace with: "The format for this vector is shown in Figure 166-14 for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, and Figure 166-15 for 50GBASE-AU PHY."

Replace with: "The format for this vector is shown in Figure 166–14 for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, and Figure 166-15 for 50GBASE-AU PHY."

Replace with: "The format for this vector is shown in Figure 166–14 for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, and Figure 166-15 for 50GBASE-AU PHY."
<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>P</th>
<th>L</th>
<th>#</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Suggested Remedy</th>
<th>Proposed Response</th>
<th>Response Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>166</td>
<td>166.2.8.1.2</td>
<td>90</td>
<td>15</td>
<td>28</td>
<td>E</td>
<td>X</td>
<td>Incorrect indent</td>
<td>PROPOSED REJECT.</td>
<td>W</td>
</tr>
<tr>
<td>166</td>
<td>166.2.8.1.2</td>
<td>90</td>
<td>19</td>
<td>29</td>
<td>E</td>
<td>X</td>
<td>Same as above</td>
<td>PROPOSED REJECT.</td>
<td>W</td>
</tr>
<tr>
<td>166</td>
<td>166.2.8.1.2</td>
<td>90</td>
<td>22</td>
<td>30</td>
<td>E</td>
<td>X</td>
<td>Same as above</td>
<td>PROPOSED REJECT.</td>
<td>W</td>
</tr>
<tr>
<td>166</td>
<td>166.2.8.1.2</td>
<td>90</td>
<td>25</td>
<td>31</td>
<td>E</td>
<td>X</td>
<td>Same as above</td>
<td>PROPOSED REJECT.</td>
<td>W</td>
</tr>
<tr>
<td>166</td>
<td>166.2.8.1.2</td>
<td>90</td>
<td>36</td>
<td>32</td>
<td>E</td>
<td>X</td>
<td>Same as above</td>
<td>PROPOSED REJECT.</td>
<td>W</td>
</tr>
<tr>
<td>166</td>
<td>166.2.8.1.2</td>
<td>90</td>
<td>40</td>
<td>33</td>
<td>E</td>
<td>X</td>
<td>Same as above</td>
<td>PROPOSED REJECT.</td>
<td>W</td>
</tr>
</tbody>
</table>

**Comment Type:** E
**Comment Status:** X
**Suggested Remedy:**
- Incorrect indent: align the leftmost letter to the previous line.
- Same as above: 

**Proposed Response:**
- PROPOSED REJECT. The indentation follows the IEEE 802.3 rules (see, i.e., IEEE Draft P802.3/D2.2, page 4623 line 20, 113.3.6.2.4)
PROPOSED REJECT. The indentation follows the IEEE 802.3 rules (see, i.e., IEEE Draft P802.3/D2.2, page 4623 line 20, 113.3.6.2.4)

PROPOSED ACCEPT IN PRINCIPLE. Replace with "where the received signal y(n) is the result of sampling the signal produced by the PMD receive function"

PROPOSED ACCEPT.
IEEE 802.cz Multi-Gig Aut  IEEE P802.3cz D1.2 Multi-Gig Automotive Optical Ethernet PHY 2nd Task Force review comments  D 1.2 Comment Report

Cl 166 SC 166.3.4.2 P96 L42 # 131
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D Text improvement
specification in 166.2.5
SuggestedRemedy should be: specified in 166.2.2
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.3.4.2 P96 L45 # 108
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Overspecification
"Training mode" is a consequence of the Link Monitor state diagram, the 64B/65B transmit state diagram, and LFSR set to defined init value at the beginning of a Transmit Block.
Training mode is not a specification.
SuggestedRemedy Remove "(training mode)".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.3.4.2 P96 L50 # 141
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Overspecification
", also called data mode"This is versus training mode, however both modes are result of operation of 64B/65B encoding state diagram. Does not provide information and can produce confusion.
SuggestedRemedy remove it.
Proposed Response Response Status W
PROPOSED ACCEPT.
Cl 166 SC 166.3.4.3 P 99 L 1 # 145
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D Text improvement
"The 65-bit blocks decoding function is stopped until the bidirectional link is re-established (link_status = OK)." I think decoding function is not really stopped, because it is generating LBLOCK_R as XMII transfers. I think this sentence can generate confusion and is not providing additional info not already stated.
SuggestedRemedy
Remove it.
Proposed Response Response Status W PROPOSED ACCEPT.

Cl 166 SC 166.3.4.5 P 101 L 3 # 35
Hayashi, Takehiro HAT Lab.
Comment Type E Comment Status X Document layout
The location of Figure 166-25 is in clause 166.3.5.1, and it is confusing
SuggestedRemedy
Move the figure 166-25 in clause 166.3.4.5
Proposed Response Response Status W PROPOSED REJECT. This draft follows "https://mentor.ieee.org/myproject/Public/mytools/draft/styleman.pdf". In page 33 can be read "Figures should be organized to fit on a single page with the term, "Figure" and the figure number, followed by an em dash and the figure title, centered below the figure, as follows: "Figure 1—Title"."
The FrameMaker V5.0 template automatically arranges the figures in the document layout.

Cl 166 SC 166.3.5.1 P 100 L 52 # 146
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D RFER
frame error ratio (RFER) is less than 5×10^-10
SuggestedRemedy
it should be less than 4.5×10^-10. Rubén Pérez-Aranda will do a contribution with maths behind the calculation.
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Presentation "perezaranda_3cz_01_220111_RFER.pdf" has been received for discussion.

Cl 166 SC 166.3.5.2 P 101 L 43 # 147
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D Text improvement
log2(Err[n]) < T_LM. Comparison is not consistent with 166.3.5.4.
SuggestedRemedy
Change to: log2(Err[n]) ≤ T_LM
Proposed Response Response Status W PROPOSED ACCEPT.
Cl 166 SC 166.3.5.2 P 101 L 43 # 140

Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D LPI

No information is provided about PHY quality assessment in LPI operation.

SuggestedRemedy

Change: "The noise variance at the symbol detector can be estimated either by measuring the Modulation Error Ratio (MER) at the decision points or measuring the ratio of symbols corrected by the RS-FEC decoder per CW." to be: "In normal operation mode, the noise variance at the symbol detector can be estimated either by measuring the Modulation Error Ratio (MER) at the decision points or measuring the ratio of symbols corrected by the RS-FEC decoder per CW. In LPI mode, it can be estimated by measuring the MER or the corrected bits in the reception of the 12-time repeated 20-bit encoded PHD sub-block belonging to each LPI refresh codewords (see 166.4)."

Proposed Response Response Status W PROPOSED ACCEPT.

Cl 166 SC 166.4.1 P 103 L 48 # 148

Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D LPI

Shall statement is not correct. According to 78.1.3.3.1, Fast wake refers to the mode for which the transmitter continues to transmit signals during Low Power Idle so that the receiver can resume operation with a shorter wake time (as shown in Figure 78–4). For transmit, other than the PCS encoding LPI, there is no difference between fast wake and normal operation. This is partially true for the LPI operation defined for BASE-AU PHYs. It is true that transmitter continues to transmit signals during Low Power Idle. However, it is not true that for transmit, other than the PCS encoding LPI, there is no difference between fast wake and normal operation, e.g. RS-FEC CW are replaced.

SuggestedRemedy

Replace paragraph as (introductory w/o shall statements): A BASE-AU PHY that implements the optional EEE capability follows fast wake mode of LPI operation as specified in 78.1.3.3.1 in the sense the PHY transmitter remains transmitting signals during LPI (same symbol rate and modulation of normal mode). However, the data generated by the PCS sublayer is modified with respect to transparent LPI encoding of normal operation in order to allow power saving, robust OAM side communication channel and robust wake signal detection in the receiver.

Proposed Response Response Status W PROPOSED ACCEPT.

Cl 166 SC 166.4.2 P 104 L 52 # 149

Hayashi, Takehiro HAT Lab.

Comment Type E Comment Status X Document layout

The location of Figure 166-28 is in clause 166.4.1, and it is confusing

SuggestedRemedy

Move the figure 166-28 in clause 166.3.5.4

Proposed Response Response Status W PROPOSED REJECT. This draft follows "https://mentor.ieee.org/myproject/Public/mytools/draft/styleman.pdf". In page 33 can be read "Figures should be organized to fit on a single page with the term, “Figure” and the figure number, followed by an em dash and the figure title, centered below the figure, as follows: ”Figure 1—Title”.

The FrameMaker V5.0 template automatically arranges the figures in the document layout.

Proposed Response Response Status W PROPOSED ACCEPT.

Cl 166 SC 166.4.2 P 104 L 52 # 150

Pérez - Aranda, Rubén KDPOF

Comment Type E Comment Status D Text improvement

LPI operation mode as specified in 166.5.

SuggestedRemedy

should be: LPI operation mode as specified in 166.4.2.3.

Proposed Response Response Status W PROPOSED ACCEPT.

Cl 166 SC 166.4.2 P 104 L 52 # 150

Pérez - Aranda, Rubén KDPOF

Comment Type E Comment Status D Text improvement

codified 65-bit blocks

SuggestedRemedy

change to: 65-bit blocks generated by the PCS 64B/65B transmit state diagram (see 166.2.6.2).

Proposed Response Response Status W PROPOSED ACCEPT.
Comment Type: E, Comment Status: D, Text improvement
Suggested Remedy:
- Change to: 65-bit blocks generated by the PCS 64B/65B transmit state diagram (see 166.2.6.2).

Proposed Response: Response Status: W
PROPOSED ACCEPT.

Comment Type: E, Comment Status: D, Text improvement
Suggested Remedy:
- Not "Figure"

Proposed Response: Response Status: W
PROPOSED ACCEPT.

Comment Type: T, Comment Status: D, Redundant shall statement
Suggested Remedy:
- Remove full sentence.

Proposed Response: Response Status: W
PROPOSED ACCEPT.

Comment Type: E, Comment Status: D, Document layout
Suggested Remedy:
- Change background pattern or color. Nice to have: Use patterns or colors that are unique in both figures 166-31 and 166-31 to identify very clearly which information is generated by the PCS transmit function in each type of transmitted codeword.

Proposed Response: Response Status: W
PROPOSED ACCEPT.

Comment Type: T, Comment Status: D, Text improvement
Suggested Remedy:
- Remove parenthetical text from figure.

Proposed Response: Response Status: W
PROPOSED ACCEPT.
The PHY receive function shall

SuggestedRemedy
should be: The PCS receive function. Same for page 108, lines 21,25, 28

Proposed Response Response Status W
PROPOSED ACCEPT.

Comment Type T Comment Status D Text improvement

Cl 166 SC 166.4.3 P 108 L 19 # 157
Pérez - Aranda, Rubén KDPOF

(see Figure 166.2.7)

SuggestedRemedy
should be: (see 166.2.7.4)

Proposed Response Response Status W
PROPOSED ACCEPT.

Comment Type T Comment Status D Text improvement

Cl 166 SC 166.4.3 P 108 L 22 # 159
Pérez - Aranda, Rubén KDPOF

which is to detect the transmission of an LPI wake codeword as specified in 166.4.2.

SuggestedRemedy
should be: which is to detect the reception of an LPI wake codeword as specified in 166.4.2.2.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.4.3 P 108 L 25 # 158
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D Redundant shall statement

Redundant shall statement with previous one: “The PHY receive function in LPI operation mode shall detect whether the received LPI codeword is an LPI wake codeword.”

SuggestedRemedy
Remove it.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.4.3 P 108 L 29 # 160
Pérez - Aranda, Rubén KDPOF

(see 166.4.2).

SuggestedRemedy
can be changed to: (see 166.4.2.2).

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.4.3 P 108 L 29 # 160
Pérez - Aranda, Rubén KDPOF

Comment Type E Comment Status D Text improvement

Cl 166 SC 166.4.3 P 108 L 31 # 161
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D LPI

"From each LPI codeword received, 12 repetitions of a 20-bit encoded PHD sub-block shall be collected"This shall statement imposes the use of the 12 repetitions to decode the 20-bit PHD sub-blocks, which is not consistent with adopted baseline.Number of repetitions to be used are implementation dependent.

SuggestedRemedy
Replace with: “From each LPI codeword received, the 20-bit encoded PHD sub-block shall be decoded by majority voting using a number of repetitions equal or less than 11. Number of repetitions to be used is implementation dependent.” In Figure 166-32, replace “Detect LPI wake codeword and strip 12 repetitions of 20-bit encoded PHD sub-block” with “Detect LPI wake codeword and decode 20-bit encoded PHD sub-block”

Proposed Response Response Status W
PROPOSED ACCEPT.
Cl 166 SC 166.4.3 P 108 L 33 # 162
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D
Redundant shall statement

SuggestedRemedy
Remove full sentence.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.5.1 P 108 L 51 # 79
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D
Unidirectional BER test mode
Transmitter is not a PHY. A PHY also includes a receiver.

SuggestedRemedy
Change paragraph to read: “BER test mode is for measurement of the bit error ratio (BER) of the link including the PCS, PMA, and PMD sublayers of two BASE-AU PHYs and a fiber optic cable connected to them. BER test is run between the transmitter of a PHY and the receiver of its link partner. BER test mode can be configured independently for each of the unidirectional transmissions.”

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.5.1 P 109 L 16 # 82
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D
Unidirectional BER test mode
“and does not change value unless a PMA reset takes place.” Operating mode does not change unless PMA reset, and value of PHD.TX.NEXT.MODE is a consequence.

SuggestedRemedy
Remove word “value”.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.5.1 P 109 L 17 # 84
Pérez - Aranda, Rubén KDPOF

Comment Type T Comment Status D
Unidirectional BER test mode
To be clear the BER test mode is unidirectional.

SuggestedRemedy
Change to be: “The link partner receiver shall reconfigure its circuitry”

Proposed Response Response Status W
PROPOSED ACCEPT.
Cl 166 SC 166.6 P 109 L 24 # 173
Grow, Robert
RMG Consulting / KDPOF
Comment Type T Comment Status D
PMD baseline
We have only had one PMD proposal that addresses all of our rate/reach objectives. This proposal is the most complete proposal, it is consistent with our PAR project scope and with our CSD responses. It also is supported with testing, simulations and strong peer review.

Suggested Remedy
Merge swanson_3cz_02c_030821_AUTO_MDI_Baseline.pdf into the draft.

Proposed Response
PROPOSED ACCEPT.

Cl 166 SC 166.6.1.2.3 P 110 L 28 # 133
Pérez - Aranda, Rubén
KDPOF
Comment Type T Comment Status D
Text improvement
"Upon receipt of this primitive the PMA performs clock recovery for correct time sampling of received symbols and adaptive channel equalization (see 166.3.2)." Equalization is not mandatory. I suggest using more general wording. Specification for PMA receive function is referenced.

Suggested Remedy
Change to: "Upon receipt of this primitive the PMA performs clock and data recovery (see 166.3.2)."

Proposed Response
PROPOSED ACCEPT.

Cl 166 SC 166.6.1.3.3 P 111 L 4 # 134
Pérez - Aranda, Rubén
KDPOF
Comment Type T Comment Status D
Text improvement
In automotive applications, PMD signal detect function is used for implementation of wake-up / sleep functionality. For example, in ECUs integrating 1000BASE-RHC ports, reception of optical power over a threshold is used to wake up a full ECU from deep-sleep state where only few tens of micro-amperes are consumed from the battery.

Suggested Remedy
Add at the end of line 4: "PMD_RXDETECT.indication(OK) may be used to wake up from deep sleep in a system that includes a BASE-AU PHY." Add at the end of line 7: "PMD_RXDETECT.indication(FAIL) may be used to transition a system that includes a BASE-AU PHY into deep sleep."

Proposed Response
PROPOSED ACCEPT.
Comment Type: T  
Comment Status: D  
LFSR

BASE-U LFSR sequence missed for up to 25GBASE-U and for 50GBASE-U

Suggested Remedy:  
Add BASE-U LFSR sequence as approved in comment #82 of D1.0 comment resolution and presentation  

Proposed Response:  
PROPOSED ACCEPT IN PRINCIPLE. A presentation including 50GBASE-U LFSR (parezaranda_3cz_02_220111_LFSR) has been received for discussion.

Comment Type: E  
Comment Status: D  
Text improvement

Suggested Remedy:  
Add Physical Medium Dependent, for consistency

Proposed Response:  
PROPOSED ACCEPT.