IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

D 1.0 Comment Report

Cl 1  SC 1.4.333a  P 20  L 3  # 1
Pérez-Aranda, Rubén  KDPOF

Comment Type  T  Comment Status  D  BASE-AU
Should it be more convenient to use the term BASE-AU i/o MultiGBASE-AU. There is no other -AU PHY. E.g. BASE-R PCS is defined in 1.4.150 because it is common to many PHYs. Using BASE-AU can simplify MDIO registers and sublayers naming.

Suggested Remedy
Replace MultiGBASE-AU with BASE-AU.

Proposed Response  Response Status  W  PROPOSED ACCEPT.

Cl 1  SC 1.4.333a  P 20  L 3  # 2
Pérez-Aranda, Rubén  KDPOF

Comment Type  T  Comment Status  D  BASE-U
We should consider if it is appropriate the definition of BASE-U (PCS and PMA) for the PHYs sharing the same PCS and PMA. For example for MDIO PCS registers.

Suggested Remedy
Add definition of BASE-U. See as an example 1.4.3 1000BASE-H.

Proposed Response  Response Status  W  PROPOSED ACCEPT IN PRINCIPLE. In case that 50 Gbps donot share the same PCS/PMA, we should select a different PHY name accordingly.

Cl 30  SC 30.3.2.1  P 22  L 3  # 4
Pérez-Aranda, Rubén  KDPOF

Comment Type  T  Comment Status  D  PAM
For 2.5, 5 and 25 Gb/s, NRZ should be used i/o PAM2 for consistency with other optical PHYs and because optical signal is non-return to zero (values of zero or below are not taken). For 50 Gb/s, there is no baseline adopted. Also in lines 9, 14

Suggested Remedy
Replace PAM with NRZ. Replace PAM-TBD with TBD.

Proposed Response  Response Status  W  PROPOSED ACCEPT.

Cl 44  SC 44.1.3  P 25  L 44  # 5
Pérez-Aranda, Rubén  KDPOF

Comment Type  T  Comment Status  D  BASE-U
Other PCS name are prefixed to provide more information, e.g. 64B/66B, 8B/10B, etc. Following the filename criteria in perezaranda_3cz_02c_1120_phyname.pdf, it might useful to use a distinctive prefix for PCS and PMA sublayers.

Suggested Remedy
For 10 GBASE-AU, replace PCS with BASE-U PCS and PMA with BASE-U PMA.

Proposed Response  Response Status  W  PROPOSED ACCEPT.

Cl 44  SC 44.1.4.4  P 26  L 39  # 6
Pérez-Aranda, Rubén  KDPOF

Comment Type  T  Comment Status  D  EZ
Clause 300 specified PCS, PMA and PMD.

Suggested Remedy
Replace 10GBASE-AU PCS & PMA with 10GBASE-AU PCS/PMA/PMD

Proposed Response  Response Status  W  PROPOSED ACCEPT.
IEEE 802.cz Multi-Gig Aut

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D 1.0 Comment Report

<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>P</th>
<th>L</th>
<th>Comment ID</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Proposed Response</th>
<th>Comment</th>
<th>Response Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>44</td>
<td>26</td>
<td>21</td>
<td>#7</td>
<td>T</td>
<td>D</td>
<td>PROPOSED ACCEPT.</td>
<td>Editor note. PMA is already defined.</td>
<td>W</td>
</tr>
<tr>
<td>44</td>
<td>44</td>
<td>27</td>
<td>6</td>
<td>#8</td>
<td>T</td>
<td>D</td>
<td>PROPOSED ACCEPT.</td>
<td>Replace with: “Depending on the PMD definition ….”</td>
<td>W</td>
</tr>
<tr>
<td>45</td>
<td>45</td>
<td>29</td>
<td>9</td>
<td>#10</td>
<td>T</td>
<td>D</td>
<td>PROPOSED ACCEPT.</td>
<td>Here BASE-AU is used i/o MultiGBASE-AU. A single term should be used across the draft.</td>
<td>W</td>
</tr>
<tr>
<td>45</td>
<td>45</td>
<td>31</td>
<td>17</td>
<td>#11</td>
<td>T</td>
<td>D</td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td>Same OAM protocol of 1000BASE-H has been adopted for BASE-AU PHYs. However GEPOF and OMEGA PHYs do not share the same base name (BASE-H vs. BASE-U). Renaming the 1000BASE-H OAM registers to be BASE-H can be very confusing.</td>
<td>W</td>
</tr>
<tr>
<td>45</td>
<td>45</td>
<td>31</td>
<td>29</td>
<td>#12</td>
<td>T</td>
<td>D</td>
<td>PROPOSED ACCEPT.</td>
<td>They are PCS registers. BASE-U PCS xxx naming is more appropriate. Also in lines 30, 31</td>
<td>W</td>
</tr>
</tbody>
</table>

**Suggested Remedy**

- Replace with: “Depending on the PMD definition ….”
- Replace with: “upon 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on multimode optical fiber.”
- Replace with: “upon 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on optical fiber for automotive applications.”. See #150
- Replace MultiGBASE-AU with BASE-AU.

**Proposed Response**

- PROPOSED ACCEPT.
- PROPOSED ACCEPT IN PRINCIPLE. Replace with: “upon 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on optical fiber.”
- PROPOSED ACCEPT IN PRINCIPLE. Option 1: New BASE-U OAM registers set. New text in C/45 and C/300. The text of C/300 should avoid repeating the full OAM specification of C/115. It should do a reference with specific changes, as used in other places in 802.3. Option 2: Rename 1000BASE-H OAM registers set with BASE-H/U OAM. Option 2 has the advantage of avoiding repeating text in C/45. However, for consistency the same subclause should be used for specifying OAM channel for BASE-H and BASE-U, due to the cross references in C/45 to C/115. Implies C/115 maintenance request. Option 1 avoid C/115 modification. It is suggested as preferred.
- PROPOSED ACCEPT IN PRINCIPLE. Option 1.

**Suggested Remedy**

- Do nothing if MultiGBASE-AU is replaced with BASE-AU.
- Replace MultiGBASE-AU with BASE-AU.
- Replace MultiGBASE-AU with BASE-AU.
PCS status 3 reg and PCS status 4 reg are not included in the table. The PCS status 3 is consistent with the baseline (remote link margin). PCS status 4 is placeholder for BER test mode, required in other automotive PHY layers, although test modes have not been adopted yet.

**Proposed Response**
Add these registers to the table for consistency.

---

Using BASE-H is confusing.

**Proposed Response**
BASE-U or BASE-H/U per decision by TF.

---

Using BASE-H is confusing.

**Proposed Response**
BASE-U or BASE-H/U per decision by TF.

---

Using BASE-H is confusing.

**Proposed Response**
BASE-U or BASE-H/U per decision by TF.

---

**Suggested Remedy**
Add LPI bits. Tx Assert LPI received, Rx Assert LPI generated, Tx LPI indication, Rx LPI indication attending to specific LPI signaling in XGMII, 25GMII, etc.

**Proposed Response**
PROPOSED ACCEPT IN PRINCIPLE. LPI related registers are not included. It is not consistent with the EEE ability and EEE enable bits.

---

**Suggested Remedy**
Add LPI bits. Tx Assert LPI received, Rx Assert LPI generated, Tx LPI indication attending to specific LPI signaling in XGMII, 25GMII, etc.

**Proposed Response**
PROPOSED ACCEPT IN PRINCIPLE. LPI related registers are not included. It is not consistent with the EEE ability and EEE enable bits.

---

**Suggested Remedy**
Add LPI bits. Tx Assert LPI received, Rx Assert LPI generated, Tx LPI indication attending to specific LPI signaling in XGMII, 25GMII, etc.

**Proposed Response**
PROPOSED ACCEPT IN PRINCIPLE. #See #17
<table>
<thead>
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<th>Comment ID</th>
<th>SC</th>
<th>P</th>
<th>L</th>
<th>Proposed Response</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Cross reference</th>
</tr>
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<tbody>
<tr>
<td>19</td>
<td>45</td>
<td>37</td>
<td>48</td>
<td>PROPOSED ACCEPT.</td>
<td>T</td>
<td>D</td>
<td>Reference to 115 should be avoided to avoid confusion. If finally we use same FP format (we should), a reference in C/300 to C/115 should be added. I suggest restricting the references to C/115 in C/45 just to the minimum for OAM, in case of reusing same registers of 1000BASE-H. Easier for maintenance. Avoid confusion.</td>
</tr>
<tr>
<td>20</td>
<td>45</td>
<td>38</td>
<td>15</td>
<td>PROPOSED ACCEPT.</td>
<td>T</td>
<td>D</td>
<td>Reference to 115 should be avoided to avoid confusion. If finally we use same FP format (we should), a reference in C/300 to C/115 should be added. I suggest restricting the references to C/115 in C/45 just to the minimum for OAM, in case of reusing same registers of 1000BASE-H. Easier for maintenance. Avoid confusion.</td>
</tr>
<tr>
<td>21</td>
<td>105</td>
<td>45</td>
<td>34</td>
<td>PROPOSED ACCEPT IN PRINCIPLE.</td>
<td>E</td>
<td>D</td>
<td>Reference to 115 should be avoided to avoid confusion. If finally we use same FP format (we should), a reference in C/300 to C/115 should be added. I suggest restricting the references to C/115 in C/45 just to the minimum for OAM, in case of reusing same registers of 1000BASE-H. Easier for maintenance. Avoid confusion.</td>
</tr>
<tr>
<td>22</td>
<td>105</td>
<td>46</td>
<td>46</td>
<td>PROPOSED ACCEPT. See #5</td>
<td>T</td>
<td>D</td>
<td>Reference to 115 should be avoided to avoid confusion. If finally we use same FP format (we should), a reference in C/300 to C/115 should be added. I suggest restricting the references to C/115 in C/45 just to the minimum for OAM, in case of reusing same registers of 1000BASE-H. Easier for maintenance. Avoid confusion.</td>
</tr>
</tbody>
</table>
The term RS-FEC is already in use for referring other clauses. It can generate confusion (e.g. same RS of 25GBASE-T?)

**Suggested Remedy**
Replace with: “25 Gb/s PHY using 64B/65B and Reed-Solomon encoding with NRZ modulation over multimode optical fiber tailored for automotive applications (see Clause 300).”

**PROPOSED REJECT.**
RS-FEC is defined as an acronym referring to Reed-Solomon Forward Error Correction, and it does not mean an specific Reed-Solom FEC coding scheme.

The project should avoid modifications in clause 115, which is specific for a different PHY, despite it might require more repeated text in clause 45. However, C/ 45 is amended by all the projects.

**Suggested Remedy**
Avoid maintenance request for C/115.

**PROPOSED ACCEPT.**

For consistency, same nomenclature should be used in Fig 44-1, 105-1, 125-1. Also in lines 34, 35.

**Suggested Remedy**
Replace 2.5GBASE-AU PCS and 5GBASE-AU PCS with BASE-U PCS. Replace PMA with BASE-U PMA.

**PROPOSED ACCEPT.**

2.5GBASE-AU represents Physical Layer devices using Clause 300 Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer, and Physical Medium Dependent (PMD) sublayer, for transmitting 2.5 Gb/s Ethernet over a multimode optical fiber tailored for automotive applications. 2.5GBASE-AU uses 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on optical fiber. 5GBASE-AU represents Physical Layer devices using Clause 300 Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer, and Physical Medium Dependent (PMD) sublayer, for transmitting 5 Gb/s Ethernet over a multimode optical fiber tailored for automotive applications. 5GBASE-AU uses 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on optical fiber.

**PROPOSED ACCEPT IN PRINCIPLE.**
The detail level is in line with other PHYs described in the same subclause. Replace only PAM2 by NRZ.

**PROPOSED ACCEPT.**

Replace text with: “The 2.5GBASE-AU PCS is specified in Clause 300.”
<table>
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<th>Cl</th>
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<th>Proposed Response</th>
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<tr>
<td>125</td>
<td>125.1.4</td>
<td>P63</td>
<td>T</td>
<td></td>
<td>Lack of consistency with table 105-1.</td>
</tr>
<tr>
<td>28</td>
<td></td>
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<td>Suggested Remedy:</td>
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<tr>
<td></td>
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<td></td>
<td>Replace with: &quot;2.5 Gb/s PHY using 64B/65B and Reed-Solomon encoding with NRZ modulation over multimode optical fiber tailored for automotive applications (see Clause 300).&quot;</td>
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<tr>
<td></td>
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<td></td>
<td>Replace with: &quot;5 Gb/s PHY using 64B/65B and Reed-Solomon encoding with NRZ modulation over multimode optical fiber for use in automotive applications (see Clause 300).&quot; Definition according to #150</td>
</tr>
<tr>
<td>131</td>
<td>131.1.2</td>
<td>P66</td>
<td>T</td>
<td></td>
<td>For consistency, same nomenclature should be used in Fig 44-1, 105-1, 125-1 and 131-1. Also in lines 26, 27</td>
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<td>Suggested Remedy:</td>
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<td></td>
<td></td>
<td>Replace 50GBASE-AU PCS with BASE-U PCS. Replace PMA with BASE-U PMA.</td>
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<td></td>
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<td></td>
<td>This change can be postponed until 50G baseline for PCS and PMA is adopted.</td>
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<td>Proposed Response:</td>
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<td></td>
<td>PROPOSED ACCEPT IN PRINCIPLE. See #5</td>
</tr>
<tr>
<td>131</td>
<td>131.1.3</td>
<td>P67</td>
<td>T</td>
<td></td>
<td>For implementation of 2.5GBASE-AU is not mandatory 2.5GBASE-T1. For implementation of 5GBASE-AU is not mandatory 5GBASE-T1. The only thing in common is the re-use of C/55 64B/65B encoding. Also in line 29</td>
</tr>
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<td></td>
<td></td>
<td></td>
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<td>Remove M of rows 2.5GBASE-T1 and 5GBASE-T1, the the columns 2.5GBASE-AU and 5GBASE-AU respectively.</td>
</tr>
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<td></td>
<td></td>
<td>PROPOSED ACCEPT.</td>
</tr>
<tr>
<td>131</td>
<td>131.1.3</td>
<td>P67</td>
<td>T</td>
<td></td>
<td>It is multimode fiber</td>
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<td></td>
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<td></td>
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<td></td>
<td>Suggested Remedy:</td>
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<td></td>
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<td></td>
<td></td>
<td>Replace &quot;optical fiber&quot; with &quot;multimode optical fiber&quot;</td>
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<td>Proposed Response:</td>
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<td></td>
<td></td>
<td>PROPOSED ACCEPT IN PRINCIPLE. Use definition in #150: &quot;optical fiber for use in automotive applications&quot;</td>
</tr>
<tr>
<td>131</td>
<td>131.1.3</td>
<td>P67</td>
<td>T</td>
<td></td>
<td>PMX can be understood as PAM with X levels will be used. NRZ is other option. No baseline adopted.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Suggested Remedy:</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Because no baseline is adopted, replace PAMX with &quot;TBD modulation&quot;.</td>
</tr>
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<td></td>
<td>Proposed Response:</td>
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| | | | | | PROPOSED ACCEPT.
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**Comment ID: 39**

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**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:** Comment ID

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**Comment:**

**Cl 131**

**SC 131.1.3**

**P 67**

**L 31**

**# 84**

Pérez-Aranda, Rubén  
KDPOF

**Comment Type:** T  
**Comment Status:** D

For consistency with other comments and their proposed changes.

**Suggested Remedy:**

Replace with: “50 Gb/s PHY using TBD encoding with TBD modulation over multimode optical fiber tailored for automotive applications (see Clause 300).”

**Proposed Response**

Response Status: W

PROPOSED ACCEPT IN PRINCIPLE. Use definition in #150: “optical fiber for use in automotive applications”

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**Comment:**

**Cl 131**

**SC 131.2.2**

**P 67**

**L 46**

**# 85**

Pérez-Aranda, Rubén  
KDPOF

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

Many details compared with PMA and PMD. Will need to be PMD updated with C/300 accordingly.

**Suggested Remedy:**

Replace text with: “The 50GBASE-AU PCS is specified in Clause 300.” Easier to maintain.

**Proposed Response**

Response Status: W

PROPOSED ACCEPT.

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**Comment:**

**Cl 131**

**SC 131.2.3**

**P 67**

**L 50**

**# 86**

Pérez-Aranda, Rubén  
KDPOF

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

This subclause is not and does not require to be amended. In the Fig 44-1, 105-1, 125-1 and 131-1, FEC sublayer is not included.

**Suggested Remedy:**

Remove it.

**Proposed Response**

Response Status: W

PROPOSED ACCEPT.
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Page</th>
<th>Line</th>
<th>Type</th>
<th>Comment</th>
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<th>Response Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>71</td>
<td>37</td>
<td>T/technical</td>
<td>OAM optional capability should be BASE-U OAM and specified in C/300, although its specification do references C/115 to make easier maintenance and avoiding repeating text unnecessarily.</td>
<td>Correct the text accordingly.</td>
<td>W/written</td>
</tr>
<tr>
<td>41</td>
<td>71</td>
<td>43</td>
<td>T/technical</td>
<td>They are five PHYs</td>
<td>Replace four with five.</td>
<td>W/written</td>
</tr>
<tr>
<td>42</td>
<td>71</td>
<td>44</td>
<td>T/technical</td>
<td>Consider the use of BASE-AU i/o MultiGBASE-AU.</td>
<td>Per comment. If agreed, make general change.</td>
<td>W/written</td>
</tr>
<tr>
<td>43</td>
<td>73</td>
<td>48</td>
<td>T/technical</td>
<td>PMD is connected to PCS. Terms PMD and PCS exchanged in the PHY of the right side. Also in line 49</td>
<td>Per comment.</td>
<td>W/written</td>
</tr>
<tr>
<td>44</td>
<td>74</td>
<td>8</td>
<td>T/technical</td>
<td>PAM term is not necessary for description.</td>
<td>Replace: “using a series of fixed length binary blocks”</td>
<td>W/written</td>
</tr>
<tr>
<td>45</td>
<td>74</td>
<td>13</td>
<td>T/technical</td>
<td>The control information PHD is not intended for clock alignment. PHD is for EEE and OAM capabilities exchange, OAM protocol, PHY control and link monitoring.</td>
<td>Per comment.</td>
<td>W/written</td>
</tr>
<tr>
<td>CI</td>
<td>SC</td>
<td>P</td>
<td>L</td>
<td>Comment Type</td>
<td>Comment Status</td>
<td>Proposed Response</td>
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<td>---</td>
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<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>300</td>
<td>300.1.4</td>
<td>74</td>
<td>21</td>
<td>T</td>
<td>D</td>
<td>Remove PAM2 per comment.</td>
</tr>
<tr>
<td>300</td>
<td>300.1.4</td>
<td>74</td>
<td>27</td>
<td>T</td>
<td>D</td>
<td>OAM optical capability should BASE-U OAM and specified in C/300, although its specification does references C/115 to make easier maintenance and avoiding repeating text unnecessary. Also in line 30.</td>
</tr>
<tr>
<td>300</td>
<td>300.1.4</td>
<td>74</td>
<td>38</td>
<td>E</td>
<td>EZ</td>
<td>&quot;PMA functionality is described …&quot;. I believe the standard document provides a set of specifications, but not descriptions. The PMA functionality is specified. Similar wording is used in several places.</td>
</tr>
</tbody>
</table>

Pérez-Aranda, Rubén, KDPOF
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### Proposed Response

#### Comment ID 52

**Comment Type:** Terminology  
**Comment Status:** D  
**Response Status:** W  
**Proposed Response:**

"portion of the coded PHD called PHD block". Lack of clarity.

**Suggested Remedy:**

Introduce a paragraph before the PHD is and how is encoded and split in portions. Then use the introduced terminology in the the commented paragraph to explain the 20-bit PHD encoded sub-blocks are appended to 80 65-bit blocks.

**Proposed Response:**

PROPOSED ACCEPT.

#### Comment ID 53

**Comment Type:** Terminology  
**Comment Status:** D  
**Response Status:** W  
**Proposed Response:**

PHD term is used with no change of definition.

**Suggested Remedy:**

Amend 1.4.389 physical header data (PHD) accordingly.

**Proposed Response:**

PROPOSED ACCEPT IN PRINCIPLE. Amend in 1.4.389 definition a reference to Clause 300.

#### Comment ID 54

**Comment Type:** Terminology  
**Comment Status:** D  
**Response Status:** W  
**Proposed Response:**

Galois field is not indicated, and needs to be deducted from the parity length.

**Suggested Remedy:**

"The resulting 5220 information bits shall be encoded using an RS-FEC (544,522) code over Galois Field 2^10 as specified in 300.2.3.5." With editorial license.

**Proposed Response:**

PROPOSED ACCEPT.

#### Comment ID 55

**Comment Type:** Terminology  
**Comment Status:** D  
**Response Status:** W  
**Proposed Response:**

PAM2 demodulation step is not necessary for the specification.

**Suggested Remedy:**

"The PCS Receive function comprises the binary descrambling, ..........." or equivalent.

**Proposed Response:**

PROPOSED ACCEPT.

#### Comment ID 56

**Comment Type:** Terminology  
**Comment Status:** D  
**Response Status:** W  
**Proposed Response:**

"Why control characters together with /O/, /S/ etc are introduced here and not used? The clause 300.2.2 should not be split by the figures 300-4 through 300-6. Text like "The subscript in the above labels indicates 49 the position of the character in the eight characters from the XGMII or 25GMII transfer(s)" is not clear if it is referring to figures or previous paragraph, i.e. what is above?"

**Suggested Remedy:**

Move definition to subclauses where they are used.

**Proposed Response:**

PROPOSED REJECT.
IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

**Cl 300 SC 300.2.1 P77 L35 #58**
Pérez-Aranda, Rubén KDPOF

**Comment Type:** T  **Comment Status:** D  **Terminology**

Figure 300-4. PDB terms to be removed.

**Suggested Remedy**
Per comment.

**Proposed Response**  
Response Status: W

PROPOSED ACCEPT.

---

**Cl 300 SC 300.2.1 P77 L35 #59**
Pérez-Aranda, Rubén KDPOF

**Comment Type:** E  **Comment Status:** D  **Terminology**

PHD block is used together with 20-bit PHD block. Ambiguity can be produced.

**Suggested Remedy**
- Replace 20-bit PHD block with 20-bit encoded PHD sub-block.
- General proposal: Use PHD to indicate the chunk of binary information per Table 300-2.
- Use encoded PHD for the PHD being interleaved and encoded.
- Use 20-bit encoded PHD sub-block for the sub-blocks appended to each RS-FEC CW.

**Proposed Response**  
Response Status: W

PROPOSED ACCEPT.

---

**Cl 300 SC 300.2.1 P77 L35 #60**
Pérez-Aranda, Rubén KDPOF

**Comment Type:** T  **Comment Status:** D  **Terminology**

Figure 300-4. Additive scrambler uses a PRBS generator that is reset at the beginning of the Transmit Block, because it is intended to be used as pre-known data for synchronization and training purposes before link is established. In the baseline, the additive scrambler is a self-contained block to avoid the idea of free running PRBS.

**Suggested Remedy**
Remove adder and replace scrambler with a single box as in the baseline.

**Proposed Response**  
Response Status: W

PROPOSED ACCEPT.

---

**Cl 300 SC 300.2.1 P78 L33 #63**
Pérez-Aranda, Rubén KDPOF

**Comment Type:** T  **Comment Status:** D  **Transmit Block synch**

Figure 300-5. Is the PMA service interface defined? Is the transmit block synchronization a function of PCS sublayer or it belongs to PMA sublayer?

**Suggested Remedy**
For sake of simplicity, remove PMA service interface, remove transmit block synchronization block.

**Proposed Response**  
Response Status: W

PROPOSED ACCEPT.
IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

IEEE 802.cz Multi-Gig Aut

**Comment ID** 64

**Pérez-Aranda, Rubén**

**Comment Type** T

**Comment Status** D

**SC 300.2.1**

**Cl 300**

**Proposed Response**

Figure 300-6. It is an Interleaved TRC.

TRC is the inner code in a concatenation of 2 codes (TRC and RS). Interleaving exists because the TRC parity for each information bit is transmitted in different codewords of the outer code, i.e. the RS. Other repetition schemes may be defined w/o interleaving, therefore w/o inner code gain.

**Suggested Remedy**

Add "Interleaved" per baseline.

**PROPOSED REJECT.**

Interleaving is already specified in the transmission ordering.

---

**Comment ID** 65

**Pérez-Aranda, Rubén**

**Comment Type** T

**Comment Status** D

**SC 300.2.1**

**Cl 300**

**Proposed Response**

No clear the function of PHD block ordering. The output is the same of the input and it is not clear how the PHD sub-block are transmitted into the complete Transmit Block.

**Suggested Remedy**

In the bottom line indicates the CWs as RS-FEC CWs (the same of Figure 300-4). For each rectangle split in two, the left one wider with 65-bit blocks, and the right one narrower, with the 20-bit PHD encoded sub-blocks. Then, add arrows from the encoded PHD line to bottom line to indicate order.

**PROPOSED ACCEPT IN PRINCIPLE.**

Replace “PHD block ordering” with “PCS transmit ordering”, since it is the general one.

---

**Comment ID** 66

**Pérez-Aranda, Rubén**

**Comment Type** T

**Comment Status** D

**SC 300.2.3.2**

**Cl 300**

**Proposed Response**

There is no shall statement for the transmit ordering. Figures 300-4 and 300-6 are not referenced. Shall statement is necessary to unambiguously define the transmit block ordering. It might be done with equations if it is appropriate.

**Suggested Remedy**

Per comment.

**PROPOSED ACCEPT IN PRINCIPLE.**

As per #189, the shall statement will be placed at the lowest hierarchy level possible.

---

**Comment ID** 67

**Pérez-Aranda, Rubén**

**Comment Type** T

**Comment Status** D

**SC 300.2.3.1**

**Cl 300**

**Proposed Response**

According to the Figure 300-7 PCS transmit function, this clause should be “Payload data path”. There is lack of consistency.

**Suggested Remedy**

Do it consistent, changing block diagram, text or both.

**PROPOSED ACCEPT IN PRINCIPLE.**

The text will be changed to match the Figure 300-7.
IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

# 69

Pérez-Aranda, Rubén

**Comment Type:** E

Reference to C/115 for fix-point. It should be defined in C/300, new or by reference to C/115. Reduce to min the references to C/115, with is not functionally related clause.

**Suggested Remedy:**

Per comment. General to C/300.

**Proposed Response**

PROPOSED ACCEPT.

---

# 70

Pérez-Aranda, Rubén

**Comment Type:** T

Table 300-2 OAM capability should be BASE-U OAM and specified in C/300, although its specification do references C/115 to make easier maintenance and avoiding repeating text unnecessarily.

**Suggested Remedy:**

Per comment.

**Proposed Response**

PROPOSED ACCEPT.

---

# 71

Pérez-Aranda, Rubén

**Comment Type:** T

From an architectural point of view, the step number 4 does not belong to the physical header data path, it is outside. Also in line 15.

**Suggested Remedy:**

Move transmit ordering outside, specified before FEC encoder. This new subclauses should include shall statements for the transmit ordering, taking into account the start of transmit block. Modify Figure 300-8 accordingly.

**Proposed Response**

PROPOSED ACCEPT IN PRINCIPLE. See #66

---

# 72

Pérez-Aranda, Rubén

**Comment Type:** T

CRC code is not "extra", it is the only error detection capability after TRC decoding.

**Suggested Remedy:**

Remove "extra"

**Proposed Response**

PROPOSED ACCEPT.

---

# 73

Pérez-Aranda, Rubén

**Comment Type:** T

No extra. It is after TRC decoding.

**Suggested Remedy:**

Replace with: "The 224 PHD bits from PHD Builder are appended with 16 cyclic redundancy check bits (CRC16) for error detection capability after TRC decoding."

**Proposed Response**

PROPOSED ACCEPT.
Proposed Response

75
Cl 300 SC 300.2.3.4
P 84 L 3
Pérez-Aranda, Rubén
KDPOF

Comment Type T
Comment Status D

TRC is not systematic code.

Suggested Remedy

Remove "systematically"

Proposed Response

PROPOSED ACCEPT.

76
Cl 300 SC 300.2.3.5
P 84 L 11
Pérez-Aranda, Rubén
KDPOF

Comment Type T
Comment Status D

From an architectural point of view, the step number 4 does not belong to the physical header data path, it is outside.

Suggested Remedy

Move transmit ordering outside, specified before FEC encoder. This new subclause should include shall statements for the transmit ordering, taking into account the start of transmit block.

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE. See #66. Introduce the concept of start of transmit block.

77
Cl 300 SC 300.2.3.4.9
P 87 L 24
Pérez-Aranda, Rubén
KDPOF

Comment Type T
Comment Status D

Hierarchically, which information composes the RS message symbols and how it is ordered should in a different sub-clause, the one of PCS transmit ordering. Also in line 49 The RS-FEC encoder clause should only specify how the encoder works, w/o taking care about the meaning of the different bits that compose the message to be encoded. The RS-FEC decoder has 2 t 10-bit RS symbols error detection capability and t 10-bit RS symbols error correction capability. RS-FEC error detection shall be used to flag /E/ for the affected 65-bit blocks. This will improve the MTTFPA of the system.

Suggested Remedy

Add shall statement accordingly.

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE. See #91.

78
Cl 300 SC 300.2.3.4.10
P 87 L 27
Pérez-Aranda, Rubén
KDPOF

Comment Type T
Comment Status D

Hierarchically, which information composes the RS message symbols and how it is ordered should in a different sub-clause, the one of PCS transmit ordering.

Suggested Remedy

Per comment.

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE. See #Mux.

79
Cl 300 SC 300.2.3.5
P 87 L 45
Pérez-Aranda, Rubén
KDPOF

Comment Type T
Comment Status D

Hierarchically, which information composes the RS message symbols and how it is ordered should in a different sub-clause, the one of PCS transmit ordering. Also in line 49 The RS-FEC encoder clause should only specify how the encoder works, w/o taking care about the meaning of the different bits that compose the message to be encoded. The RS-FEC decoder has 2 t 10-bit RS symbols error detection capability and t 10-bit RS symbols error correction capability. RS-FEC error detection shall be used to flag /E/ for the affected 65-bit blocks. This will improve the MTTFPA of the system.

Suggested Remedy

Add shall statement accordingly.

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE. This specification will be included in the future subclause specifying the PCS transmit ordering.

80
Cl 300 SC 300.2.3.4.10
P 88 L 24
Pérez-Aranda, Rubén
KDPOF

Comment Type T
Comment Status D

Hierarchically, which information composes the RS message symbols and how it is ordered should in a different sub-clause, the one of PCS transmit ordering. Also in line 49 The RS-FEC encoder clause should only specify how the encoder works, w/o taking care about the meaning of the different bits that compose the message to be encoded.

Suggested Remedy

Per comment.

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE. This specification will be included in the future subclause specifying the PCS transmit ordering.
IEEE 802.cz Multi-Gig Aut | IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments | D 1.0 Comment Report

Cl 300 SC 300.2.3.6 | P 90 | L 1 | # 81
Pérez-Aranda, Rubén | KDPOF
Comment Type T | Comment Status D

Multiplexer?

Suggested Remedy
Replace with: "The initial value of r[0] is xor-ed with the first bit from the RS-FEC encoder to generate ....".

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 300 SC 300.2.3.6 | P 90 | L 2 | # 82
Pérez-Aranda, Rubén | KDPOF
Comment Type T | Comment Status D

In 802.3bv project, MATLAB code was used for formal definition of the LFSRs sequences along a transmit block. It was used for avoiding ambiguity in the specification and providing an unambiguous way to check the correct understanding of the specification.

Suggested Remedy
Add MATLAB code and corresponding text per baseline.

Proposed Response Response Status W
PROPOSED REJECT.
Follow other clauses in 802.3 and add informative annexes with examples of input and output bit streams.

Cl 300 SC 300.2.3.7 | P 90 | L | # 83
Pérez-Aranda, Rubén | KDPOF
Comment Type T | Comment Status D

No needed for specification.

Suggested Remedy
Remove clause.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 300 SC 300.2.4 | P 90 | L 28 | # 85
Pérez-Aranda, Rubén | KDPOF
Comment Type T | Comment Status D

What is code-group? What is parameter rx_symb?

Suggested Remedy
Replace "The PCS Receive function accepts received code-groups provided by the PMA Receive function via the parameter rx_symb. The PCS receiver uses knowledge of the encoding rules and PMA training alignment to correctly align the Transmit Blocks. The received PAM2 symbols are demapped and descrambling is performed." with: The PCS receive function accepts detected bits provided by the PMA receive function. The PCS receive function knows to which part of the received Transmit Block the symbols belong, based on the symbol time alignment information provided by the PMA receive function. The PCS receive function shall carry out the binary descrambling, RS-FEC decoding, PHD decoding, and the 64B/65B decoding.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 300 SC 300.2.4 | P 90 | L 28 | # 86
Pérez-Aranda, Rubén | KDPOF
Comment Type T | Comment Status D

Incomplete specification. No PHD decoding.

Suggested Remedy
Add text about TRC decoding (majority voting), CRC16 detection. E.g. "The PHD decoding comprises TRC decoding by majority voting for error correction and CRC16 checking for each received PHD. Only when the CRC16 computation indicates that the received PHD is correct shall the contents of the different PHD fields be available to the PMA state diagrams and to the other PCS receive functions that use this information."

Proposed Response Response Status W
PROPOSED ACCEPT.

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: Comment ID

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<th>SC</th>
<th>P</th>
<th>L</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Response Status</th>
</tr>
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<tr>
<td>87</td>
<td>300</td>
<td>300.2.4</td>
<td>90</td>
<td>42</td>
<td>T</td>
<td>D</td>
<td>W</td>
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<td>88</td>
<td>300</td>
<td>300.2.4.1</td>
<td>90</td>
<td>46</td>
<td>T</td>
<td>D</td>
<td>W</td>
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<td>300</td>
<td>300.2.4.2</td>
<td>90</td>
<td>51</td>
<td>T</td>
<td>D</td>
<td>W</td>
</tr>
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</table>

### Proposed Response

**Cl 300, SC 300.2.4, P 90, L 42, # 87**

Pérez-Aranda, Rubén  
KDPOF  

Comment Type: T  
Comment Status: D  

PCS receive process monitors ...  

**Suggested Remedy**  
Replace monitors with decodes.  

**Response Status:** W  
PROPOSED ACCEPT.

### Proposed Response

**Cl 300, SC 300.2.4.1, P 90, L 46, # 88**

Pérez-Aranda, Rubén  
KDPOF  

Comment Type: T  
Comment Status: D  

Transmit block synchronization is not intended to be implement by PCS (it can’t). Synchronization and timing recovery together with EQ needs to be implemented at PMA level (e.g. if no synchro, timing-recovery and EQ cannot be adapted).  

**Suggested Remedy**  
Remove this clause.  

**Response Status:** W  
PROPOSED ACCEPT IN PRINCIPLE. See #63

### Proposed Response

**Cl 300, SC 300.2.4.2, P 90, L 51, # 89**

Pérez-Aranda, Rubén  
KDPOF  

Comment Type: T  
Comment Status: D  

PMA receive function passes detected bits to PCS. No demapping needed.  

**Suggested Remedy**  
Remove this clause.  

**Response Status:** W  
PROPOSED ACCEPT.

### Proposed Response

**Cl 300, SC 300.2.4.3, P 91, L 5, # 90**

Pérez-Aranda, Rubén  
KDPOF  

Comment Type: T  
Comment Status: D  

PCS descrambler is connected to RS-FEC decoder.  

**Suggested Remedy**  
Change: The PCS descrambles the data stream and returns the proper sequence of bits to the decoding process for generation of RXD<31:0> to the XGMII or 25GMII. The PCS descrambles the data stream and returns the proper sequence of bits to the RS-FEC decoder.  

**Response Status:** W  
PROPOSED ACCEPT IN PRINCIPLE.  
RS-FEC decoder is part of the PCS. Replace "The PCS descrambles the data stream and returns the proper sequence of bits to the decoding process for generation of RXD<31:0> to the XGMII or 25GMII" to "The resulting sequence of bits is used as input to the RS-FEC decoder for generation of RXD<31:0> to the XGMII or 25GMII".

### Proposed Response

**Cl 300, SC 300.2.4, P 91, L 7, # 91**

Pérez-Aranda, Rubén  
KDPOF  

Comment Type: T  
Comment Status: D  

FEC decoder error  
RS-FEC decoder sub-clause is missed.  

**Suggested Remedy**  
Add sub-clause specifying the points needed for interoperability, e.g. error detection signaling. The descrambled bits are RS-FEC decoded, with error correction and error detection. If during RS-FEC decoding it is detected that a codeword contains errors that could not be corrected, the resulting bits belonging to that codeword shall be marked as corrupt. The bit stream is then binary descrambled.  

**Response Status:** W  
PROPOSED ACCEPT IN PRINCIPLE.  
"The descrambled bits are RS-FEC decoded, with error correction and error detection. If during RS-FEC decoding it is detected that a codeword contains errors that could not be corrected, the resulting bits belonging to that codeword shall be marked as corrupt."
<table>
<thead>
<tr>
<th>Comment ID</th>
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<th>Comment</th>
<th>Proposed Response</th>
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</thead>
<tbody>
<tr>
<td>92</td>
<td>92</td>
<td>T</td>
<td>D</td>
<td>Receiver</td>
<td>Add subclause.</td>
</tr>
<tr>
<td>93</td>
<td>93</td>
<td>T</td>
<td>D</td>
<td>Receiver</td>
<td>Add subclause.</td>
</tr>
<tr>
<td>94</td>
<td>94</td>
<td>T</td>
<td>D</td>
<td>FEC decoder error</td>
<td>PROPOSED ACCEPT IN PRINCIPLE. Move text with changes, e.g. error detection is not implemented in the receiver by RS-FEC re-encoding (extra latency), but embedded in the RS decoder itself. Not needed such kind of details. Only that RS-FEC shall do both error correction and error detection.</td>
</tr>
<tr>
<td>95</td>
<td>95</td>
<td>E</td>
<td>D</td>
<td>For control of the MultiGBASE-AU PHY and link (see 300.3.4) and for PHY link quality (see 300.3.5)</td>
<td>Replace &quot;for control of the MultiGBASE-AU PHY and link (see 300.3.4) and for PHY link quality (see 300.3.5)&quot; with &quot;for PHY control and link monitoring (see 300.3.4) and link quality (see 300.3.5).&quot;</td>
</tr>
<tr>
<td>96</td>
<td>96</td>
<td>T</td>
<td>D</td>
<td>Specify nothing.</td>
<td>PROPOSED ACCEPT IN PRINCIPLE. New subclause for RS-FEC decoder will be added. The reference will be changed to this new subclause.</td>
</tr>
</tbody>
</table>
Proposed Response

Proposed ACCEPT IN PRINCIPLE.

The PMA receive function comprises Transmit Block synchronization, clock recovery for sampling received symbols and adaptive channel equalization.

The PMA performs clock recovery on the received signal. The clock recovery includes coarse timing recovery for synchronization with the start of the received Transmit Block and clock frequency deviation estimation, and fine timing recovery to provide a stable clock to sample the received signal from the PMD with a suitable phase for reliable reception (see 300.3.5.1). The PMA receiver should implement channel equalization. The channel equalization technique is up to the implementer.

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE.

Remove last unnecessary sentence:
"The PMA receive function comprises Transmit Block synchronization, clock recovery for sampling received symbols and adaptive channel equalization.

The PMA performs clock recovery on the received signal. The clock recovery includes coarse timing recovery for synchronization with the start of the received Transmit Block and clock frequency deviation estimation, and fine timing recovery to provide a stable clock to sample the received signal from the PMD with a suitable phase for reliable reception (see 300.3.5.1). The PMA receiver should implement channel equalization."

Proposed Response

PROPOSED ACCEPT.

Replace with: "……. a(n) takes its value from the set {–1, +1}. "

Remove: "Ts shall be 1000 / (53.125 × S) ps, and depends on the MultiGBASE-AU PHY. See Table 300–1 for the definition of S for each MultiGBASE-AU PHY. " Now in transmit function per other comment.

Proposed Response

PROPOSED ACCEPT.

FALSE: The 64B/65B decoder does not decode received PDBs from the link partner and local fault is signaled in XGMII or 25GMII.

Proposed Response

PROPOSED ACCEPT IN PRINCIPLE. Replace by: " FALSE: The 64B/65B decoder does not decode received PDBs from the link partner and Local Fault ordered sets are signaled in XGMII or 25GMII."

Proposed Response

PROPOSED ACCEPT.
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Proposed Response</th>
<th>Comment Status</th>
<th>Comment Type</th>
<th>Suggested Remedy</th>
<th>Response Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>PROPOSED ACCEPT.</td>
<td>D</td>
<td>T</td>
<td>so that the remote PHY can perform clock recovery and train its equalizers (tx_enable &lt;= TRUE).</td>
<td>W</td>
</tr>
<tr>
<td>103</td>
<td>PROPOSED ACCEPT.</td>
<td>D</td>
<td>T</td>
<td>“so that the remote PHY can perform Transmit Block synchronization, clock recovery and train its equalizers (tx_enable &lt;= TRUE)”</td>
<td>W</td>
</tr>
<tr>
<td>104</td>
<td>PROPOSED ACCEPT.</td>
<td>D</td>
<td>T</td>
<td>so that the remote PHY can perform clock recovery and train its equalizers (tx_enable &lt;= TRUE).</td>
<td>W</td>
</tr>
<tr>
<td>105</td>
<td>PROPOSED ACCEPT.</td>
<td>D</td>
<td>T</td>
<td>“so that the remote PHY can perform Transmit Block synchronization, clock recovery and train its equalizers (tx_enable &lt;= TRUE)”</td>
<td>W</td>
</tr>
<tr>
<td>106</td>
<td>PROPOSED ACCEPT.</td>
<td>D</td>
<td>T</td>
<td>instead of this, the 64B/65B PCS encoder encodes predefined data to be used for the remote receiver alignment (see Figure 300–21).</td>
<td>W</td>
</tr>
<tr>
<td>107</td>
<td>PROPOSED ACCEPT.</td>
<td>D</td>
<td>T</td>
<td>“removes checks, and if necessary, waits until the XGMII or 25GMII transmit data stream transfer is not part of a packet or error propagation (link_status = OK * tx_xmii_idle = TRUE); and then’.”</td>
<td>W</td>
</tr>
</tbody>
</table>
"begins link establishment by recovering clock from the received signal. The clock recovery comprises two stages. The first stage is coarse timing recovery in PMARX_TIMING_COARSE, where symbol synchronization shall be performed. After symbol synchronization is achieved (sotxb_synch = OK), ..."

Suggested Remedy
"begins link establishment by synchronizing the Transmit Block and recovering clock from the received signal. It is accomplished in two steps. The first step is coarse timing recovery in PMARX_TIMING_COARSE, where Transmit Block synchronization shall be performed. After synchronization with the start of the received Transmit Block is achieved (sotxb_synch = OK), ..."

Proposed Response
PROPOSED ACCEPT.

Comment Type: T, Comment Status: D

Comment ID: 108
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"Blind tracking algorithms for timing recovery can be enabled after the equalizer training has finished. The implementor has the possibility to implement data-aided or blind algorithms for clock recovery and equalizer adaptation during the training phase (i.e. link_status = FAIL). It is decision up to the implementor. When link_status = OK, the clock recovery and equalizer tracking needs to be blind, because transported information will be encoded from XGMI1, which is not a priori known. However the implementor may decided not to adapt the equalizers once link_status = OK.

Suggested Remedy
Remove. It is implementation decision the algorithms to use.

Proposed Response
PROPOSED ACCEPT.

Comment Type: T, Comment Status: D

Comment ID: 109
Page 20 of 59

"or disable the reception of headers" seems to be related with en_rcvhdr of Figure 300-17. en_rcvhdr variable is not defined and it is not assigned by any other state diagram or register. It is not consistent with baseline.

Suggested Remedy
Remove text and variable in the state diagram.

Proposed Response
PROPOSED ACCEPT.

Comment Type: E, Comment Status: D

Comment ID: 110
Page 20 of 59

whether this reception is reliable

Suggested Remedy
whether the 65B blocks reception is reliable.

Proposed Response
PROPOSED ACCEPT.
Comment ID 114
Cl 300 SC 300.3.5.2 P 99 L 53 # 114
Pérez-Aranda, Rubén KDPOF
Comment Type T Comment Status D Modulation “at the PAM2 decoder decision points”
SuggestedRemedy “at the symbols detector decision points”
Proposed Response Response Status W PROPOSED ACCEPT.

Comment ID 115
Cl 300 SC 300.3.5.2 P 100 L 2 # 115
Pérez-Aranda, Rubén KDPOF
Comment Type T Comment Status D Modulation “PAM2 decoder”
SuggestedRemedy Replace with “symbols detector”
Proposed Response Response Status W PROPOSED ACCEPT.

Comment ID 116
Cl 300 SC 300.3.5.2 P 100 L 9 # 116
Pérez-Aranda, Rubén KDPOF
Comment Type T Comment Status D Modulation “required for reception of RS-FEC coded PAM2”
SuggestedRemedy Replace with “required for reception of RS-FEC codewords”
Proposed Response Response Status W PROPOSED ACCEPT.

Comment ID 117
Cl 300 SC 300.3.5.3 P 100 L 15 # 117
Pérez-Aranda, Rubén KDPOF
Comment Type T Comment Status D Miss text Definition of PHY quality monitor state variables is missed
SuggestedRemedy Add subclause, similar to C/115.3.7.3.
Proposed Response Response Status W PROPOSED ACCEPT.

Comment ID 118
Cl 300 SC 300.3.5.3 P 100 L 24 # 118
Pérez-Aranda, Rubén KDPOF
Comment Type T Comment Status D Cross reference Reference to C/115 for fix-point. It should be defined in C/300, new or by reference to C/115. Reduce to min the references to C/115, with is not functionally related clause.
SuggestedRemedy Per comment. General to C/300.
Proposed Response Response Status W PROPOSED ACCEPT.

Comment ID 119
Cl 300 SC 300.3.6 P 100 L 41 # 119
Pérez-Aranda, Rubén KDPOF
Comment Type E Comment Status D Re-structure text These state diagrams belong to PCS sublayer.
SuggestedRemedy Move to PCS subclause.
Proposed Response Response Status W PROPOSED ACCEPT.

Comment ID 120
Cl 300 SC 300.3.6.1 P 102 L 11 # 120
Pérez-Aranda, Rubén KDPOF
Comment Type T Comment Status D UBLOCK_R is not used by any state diagram. Neither others like LPBLOCK_T/R and IBLOCK_T/R. However these last ones are expected to be used by the state diagrams when LPI is defined (see e.g. C/55, C/149, ).
SuggestedRemedy Remove UBLOCK_R. This PHY will not generate Link Interruption ordered sets to RS.
Proposed Response Response Status W PROPOSED ACCEPT.
According to PHY name conventions, BASE-U identifies the PCS and PMA, and BASE-AU the PMD or complete PHY.

Suggested Remedy
Correct per comment.

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Substitute "the services provided by a MultiGBASE-AU PMD connected to MultiGBASE-AU PMA." by "the services provided by a BASE-AU PMD connected to BASE-U PMA."

Comment Type T Comment Status D
Basic-AU

Suggested Remedy
Remove.

Proposed Response Response Status W
PROPOSED ACCEPT.

Suggested Remedy
Remove.

Proposed Response Response Status W
PROPOSED ACCEPT.

I recommend to explain the abbreviation of "DTEs" that the first seen in this amendment.

Suggested Remedy
Add a sentence “Data Terminal Equipments” explain for "DTEs".

Proposed Response Response Status W
PROPOSED REJECT.
DTE is already defined in 802.3:2018, Clause 1.5 Abbreviations, page 109
<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
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<th>Hyakutake, Yasuhiro, AdamanT Namiki Precision Jewel Co., Ltd.</th>
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<tbody>
<tr>
<td>300,1</td>
<td>300,1</td>
<td>P71</td>
<td>L20</td>
<td>127</td>
<td>I recommend the final sentence conjunction word may chose &quot;and&quot;, if the 50GBASE-AU Physical Layer as the same equivalency a 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU.</td>
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<td>Suggested Remedy: The conjunction word &quot;or&quot; change to &quot;and&quot;.</td>
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<td>Proposed Response</td>
<td>Response Status</td>
<td>W</td>
<td>PROPOSED REJECT. Acceptor this comment would change the meaning of the sentence. A set of PCS, PMA and PMD sublayer only can be a PHY type that will be only one pick from the set (2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, 50GBASE-AU), so right the conjunction word is &quot;or&quot;.</td>
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<th>Cl</th>
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<th>#</th>
<th>Wienckowski, Natalie, General Motors</th>
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</thead>
<tbody>
<tr>
<td>115</td>
<td>115.9</td>
<td>P52</td>
<td>L27</td>
<td>130</td>
<td>The current OAM exchanges STA information. This does not provide information on the PHY or channel state. Either replace this with the Clause 149 OAM or add Features of the BASE-T1 OAM to add PHY and channel status information. Per slide 14 of <a href="https://www.ieee802.org/3/OMEGA/public/mar_2020/cpardo_OMEGA_01_0320_Objectives.pdf">https://www.ieee802.org/3/OMEGA/public/mar_2020/cpardo_OMEGA_01_0320_Objectives.pdf</a> one desired used of Multi Gig Optical Automotive Ethernet is redundant links with one copper and one optical. To do this, the information provided in the BASE-T1 OAM is needed.</td>
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<td>Suggested Remedy: See wienckowski_3cz_01_0321.pdf.</td>
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<tr>
<td>Proposed Response</td>
<td>Response Status</td>
<td>W</td>
<td>PROPOSED REJECT. MultiGBASE-T1 OAM approach is different of PHD + OAM approach of BASE-H and BASE-AU.</td>
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<tr>
<td>115</td>
<td>115.14.3</td>
<td>P60</td>
<td>L3</td>
<td>128</td>
<td>The OAM definition will be included in Clause 300 if comment #11 is approved by TF. Therefore is not applicable.</td>
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<td>Suggested Remedy: Add &quot;115.3 Physical Medium Attachment (PMA) sublayer&quot; before 115.3.4.</td>
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<td>Proposed Response</td>
<td>Response Status</td>
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<td>PROPOSED REJECT. OAM definition will be included in Clause 300 if comment #11 is approved by TF. Therefore is not applicable.</td>
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<td>115</td>
<td>115.14.3</td>
<td>P60</td>
<td>L3</td>
<td>129</td>
<td>Relevant information transported by the PHD concerning to the PHY status (both partners):</td>
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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: Comment ID
IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

**PHD.RX.LINKMARGIN**: The value of this field is determined by the PHY quality monitor state diagram in response to link margin estimation.

- Local link margin, and remote link margin (the partner) are reported by MDIO.
- Link margins are reported with format (8, 3) fix point in log2 units of the extra noise variance supported by the each receiver fulfilling BER < $10^{-12}$.
  
  - Min resolution is $2^{-(8-3)} = 0.0312$ log2 units, equivalent to $10\log_{10}(2)^{0.0312} \approx 0.1$ dB
  
  - Range is $[-2^{(3-1)}, 2^{(3-1)-2^{-5}}] = [-4, 3.97]$ log2 units, equivalent to approx. [-12, 12] dB.

  The noise variance at symbol detector can be estimated either by measuring the Modulation Error Ratio (MER) at the decision points or measuring the ratio of corrected symbols per codeword carried out by the RS-FEC decoder. The value of the threshold and the information used to estimate the RS-FEC decoder noise variance is implementation dependent.

**PHD.RX.LINKSTATUS**: Indicates whether the local PHY is able to receive 65-bit blocks with reliability. The value of this field is determined by the PHY quality monitor state diagram. The local PHY uses this received PHD field to determine the value of the variable rem_rcvr_status.

A receiver shall assign PHD.RX.LINKSTATUS the value 1, only when local link margin $\geq 0$ dB.

- Local receiver status, remote receiver status (partner), and Link status (bidirectional) are reported by MDIO.
- Assignment of link_status = 1 happen synchronously in both PHY partners (local and remote), based on the defined state diagrams.

It is clear that the bidirectional PHY status (headers reliability, user data reliability and link margin) can be observed and checked through MDIO registers in any OMEGA PHY, differentiating characteristics of the local and remote PHY. Everything is independent of OAM channel.

Additional status information that represents the state of health of the transmitting device, which are expected to be transmitted automatically without intervention of STA (e.g. Annex 149B), would be suitable to be implemented at the PHY level (using the reserved bits) i/o OAM level to avoid interaction with the currently defined OAM protocols. This may include Power supply warning, Internal temperature warning, etc.

Action Item to ToDo list: PHY health remote monitoring.

---

**Comment #131**

**Grow, Robert**
RMG Consulting, KDPOF

**Comment Type**: E
**Comment Status**: D
**Response Status**: W

**Suggested Remedy**
Change IEEE 802.cz Multi-Gig Automotive Optical Ethernet PHY Task Force to IEEE P802.3cz Multi-Gigabit Optical Automotive Ethernet Task Force. Also correct on page 8 lines 13 and 14.

**Proposed Response**: PROPOSED ACCEPT.

**Comment #132**

**Grow, Robert**
RMG Consulting, KDPOF

**Comment Type**: E
**Comment Status**: D
**Response Status**: W

**Suggested Remedy**
Replace with "Physical Layer Specifications and Management Parameters for Multi-Gigabit Optical Automotive Ethernet" here; p. 10, l. 4; and p. 18, l. 17.

**Proposed Response**: PROPOSED ACCEPT.

**Comment #133**

**Grow, Robert**
RMG Consulting, KDPOF

**Comment Type**: E
**Comment Status**: D
**Response Status**: W

**Suggested Remedy**
(Amendment to IEEE Std 802.3TM-20xx as amended by [list to be populated during publication process]). Request update of draft templates ("of" instead of "to").

**Proposed Response**: PROPOSED ACCEPT.
IEEE 802.cz Multi-Gig Aut  IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments  D 1.0 Comment Report

Cl  FM  SC  FM  P  L  #  Comment
Grow, Robert  RMG Consulting, KDPOF

134

Comment Type  E  Comment Status  EZ
Per resolution of comments on P802.3cy snd P802.3cz PARs, we should be using optical or electrical as a modifier of "Automotive Ethernet".

SuggestedRemedy
Change "Automotive Optical" to "Optical Automotive" here,

Proposed Response  Response Status  W
PROPOSED ACCEPT.

Cl  FM  SC  FM  P  L  #  Comment
Grow, Robert  RMG Consulting, KDPOF

135

Comment Type  E  Comment Status  EZ
Add to Keywords.

SuggestedRemedy
Add Automotive Ethernet to the list.

Proposed Response  Response Status  W
PROPOSED ACCEPT.

Cl  FM  SC  FM  P  L  #  Comment
Grow, Robert  RMG Consulting, KDPOF

136

Comment Type  E  Comment Status  EZ
Obsolete note. While the Roman and Arabic numbering convention described in this note was once the style, it is no longer the style (see 2020 IEEE Standards Style Manual 11.1).

SuggestedRemedy
Delete this Editor's Note. Request update of 802.3 template if it is still there (I don't have FrameMaker to check current template on the web site.).

Proposed Response  Response Status  W
PROPOSED ACCEPT.
Sponsor ballot is now an obsolete term.
Suggested Remedy: Change "Sponsor ballot" to "SA ballot".
Proposed Response: PROPOSED ACCEPT.

Grow, Robert
RMG Consulting, KDPOF

It is customary to not include complete year on any unapproved/unpublished standard.
Suggested Remedy: Change "2022" to "20XX" here as well as page 12 and lines 1 and 7.
Proposed Response: PROPOSED ACCEPT.

As the editor's note implies actual amendment order and which amendments will be included in the next revision won't be very clear until early 2022. Mr. Law in early February proposed amendment numbers up to Amendment 17. P802.3cs (proposed Amendment 15) will very likely be an amendment to 802.3-2018. P802.3ck (proposed Amendment 16) is also expected to begin WG ballot in March (but with a longer timeline). P802.3cw (proposed Amendment 17), P802.3cx, and P802.3 db (no draft yet) all have timelines projecting completion about the same time as P802.3ck. So we could be anywhere from Amendment 1 to Amendment 6 based on February data. With this uncertainty, we probably should not assume amendment numbers because it might lead others to assume they have been assigned.
Suggested Remedy: Either leave number blank on all amendments listed until they are assigned by WG leadership. Or only include the descriptions.
Proposed Response: PROPOSED ACCEPT.
<table>
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<tr>
<th>Comment ID</th>
<th>Comment Type</th>
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<th>Page</th>
<th>Line</th>
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<tbody>
<tr>
<td>146</td>
<td>T</td>
<td>D</td>
<td>12</td>
<td>9</td>
<td>We need to add our own self description.</td>
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<tr>
<td>147</td>
<td>E</td>
<td>D</td>
<td>13</td>
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<td>Fix tabs to be about 1/4 inch per level.</td>
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<td>148</td>
<td>E</td>
<td>D</td>
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<td>Fix FrameMaker TOC file footer centering.</td>
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<td>149</td>
<td>E</td>
<td>D</td>
<td>19</td>
<td>21</td>
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<td>150</td>
<td>E</td>
<td>D</td>
<td>19</td>
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<td>Change here, and at lines 32, 38, 44, and 48:</td>
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<tr>
<td>151</td>
<td>E</td>
<td>D</td>
<td>44</td>
<td>24</td>
<td>&quot;Support operation over optical fiber tailored for automotive applications requirements&quot; to &quot;optical fiber for use in automotive applications&quot;.</td>
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</table>
IEEE 802.cz Multi-Gig Aut

IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

D 1.0 Comment Report

<table>
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<tr>
<th>Comment ID</th>
<th>CL</th>
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<tr>
<td>152</td>
<td>105</td>
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<td>45</td>
<td>35</td>
<td>Grow, Robert</td>
<td>E</td>
<td>D</td>
<td>optical fiber</td>
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<td>Language could be improved for consistency with requested changes to P802.3cz Definitions. The words &quot;an optical fiber&quot; implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).</td>
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<td>Suggested Remedy: Search on &quot;append&quot; (not full word) and replace if point of information being appended matters. For example, this case, with suitable additional clarification might appropriately read: &quot;Each sequence of 80 PDBs is followed by a 20-bit PHD block...&quot;</td>
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<td>PROPOSED REJECT. Suggested remedy seems to be unrelated with the comment. See comment #191</td>
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<td>153</td>
<td>105</td>
<td>Table 105-1</td>
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<td>Suggested Remedy: Change &quot;over an optical fiber tailored for automotive applications (see Clause 300),&quot; to &quot;over optical fiber for use in automotive applications (see Clause 300).&quot;</td>
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<td>PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150</td>
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<td>Suggested Remedy: &quot;for transmitting 2.5 Gb/s Ethernet over optical fiber in automotive applications.&quot;</td>
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<td>Suggested Remedy: &quot;for transmitting 5 Gb/s Ethernet over optical fiber in automotive applications.&quot;</td>
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<td>Proposed Response: Response Status: W</td>
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<td>PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150</td>
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<td>156</td>
<td>131</td>
<td>131</td>
<td>67</td>
<td>7</td>
<td>Grow, Robert</td>
<td>E</td>
<td>X</td>
<td>optical fiber</td>
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<td>RMG Consulting, KDPOF</td>
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<td>Comment Status: X</td>
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<td>Language could be improved for consistency with requested changes to P802.3cz Definitions. The words &quot;an optical fiber&quot; implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).</td>
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<td>Suggested Remedy: &quot;for transmitting 50 Gb/s Ethernet over optical fiber in automotive applications.&quot;</td>
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<td>Proposed Response: Response Status: W</td>
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<td>PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150</td>
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<tr>
<td>157</td>
<td>131</td>
<td>131</td>
<td>67</td>
<td>31</td>
<td>Grow, Robert</td>
<td>E</td>
<td>X</td>
<td>optical fiber</td>
</tr>
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<td>RMG Consulting, KDPOF</td>
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<td>Comment Type: E</td>
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<td>Comment Status: X</td>
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<td>Language could be improved for consistency with requested changes to P802.3cz Definitions. The words &quot;an optical fiber&quot; implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).</td>
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<td></td>
<td>Suggested Remedy: &quot;50 Gb/s PHY using TBD encoding over optical fiber in automotive applications (see Clause 300).&quot;</td>
<td></td>
<td></td>
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<td>Proposed Response: Response Status: W</td>
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<td>PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150</td>
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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: Comment ID

Comment ID 157 Page 28 of 59
05/03/2021 22:39:29
IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

161

Comment ID 161

Cl 44 SC 44.1.1 P 24 L 14 # 161

Grow, Robert  
RMG Consulting, KDPOF

Comment Type T  
Comment Status D  

These PHY type lists are frequent in IEEE Std 802.3 but a pain for adding new specifications. We occasionally try to get rid of these. This one is redundant with other Clause 44 content. Do future projects a favor and delete the list.

SuggestedRemedy

10 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer, connected through a 10 Gigabit Media Independent Interface (XGMII) to one of a number of 10 G b/s Physical Layers.

PROPOSED ACCEPT.
P802.3cz D1.0 Comment Report

**Proposed Response**

Table 45-3

1. **Comment Type**: E
2. **Comment Status**: D
3. **Response Status**: W
4. **Comment ID**: 165
5. **Page**: 30
6. **Line**: 29
7. **Column**: L7
8. **Number of Characters**: 167

Grow, Robert
RMG Consulting, KDPOF

**Proposed Response**

PROPOSED ACCEPT. Combine with comment #7 and delete PMA.

---

**Proposed Response**

Table 45-7

1. **Comment Type**: T
2. **Comment Status**: D
3. **Response Status**: W
4. **Comment ID**: 169
5. **Page**: 30
6. **Line**: 31
7. **Column**: P31
8. **Number of Characters**: 169

Grow, Robert
RMG Consulting, KDPOF

**Proposed Response**

PROPOSED ACCEPT.
Cl 170 SC 45.5.3.7 P 40 L 36 # 172
Grow, Robert       RMG Consulting, KDPOF
Comment Type E    Comment Status D    EZ
Value/Comment column does not include strikethrough of "1000'.
SuggestedRemedy
Strike through. Also p. 51, l. 8
Proposed Response Response Status W
PROPOSED ACCEPT.
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl</th>
<th>SC</th>
<th>Status</th>
<th>Page</th>
<th>Line</th>
<th>Proposed Response</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Suggested Remedy</th>
<th>Response Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>176</td>
<td>300</td>
<td>300.1</td>
<td>D</td>
<td>71</td>
<td>26</td>
<td></td>
<td>E</td>
<td>D</td>
<td>Connection of PMD to the optical fiber medium is with a PMD receptacle and mated plug. I don't think this is a requirement unless/until we adopt an MDI connector.</td>
<td>W</td>
</tr>
<tr>
<td>177</td>
<td>300</td>
<td>300.1</td>
<td>D</td>
<td>71</td>
<td>32</td>
<td></td>
<td>E</td>
<td>D</td>
<td>It might be better to soften the statement: &quot;Connection of PMD to the optical fiber medium is typically with a PMD receptacle and mated plug.&quot;</td>
<td>W</td>
</tr>
<tr>
<td>178</td>
<td>300</td>
<td>300.1</td>
<td>D</td>
<td>71</td>
<td>42</td>
<td></td>
<td>E</td>
<td>D</td>
<td>&quot;Oops, five PHY types are listed. Change &quot;four&quot; to &quot;five&quot;.</td>
<td>W</td>
</tr>
<tr>
<td>179</td>
<td>300</td>
<td>300.1.2</td>
<td>D</td>
<td>71</td>
<td>18</td>
<td></td>
<td>E</td>
<td>D</td>
<td>The acronym xMII is &quot;generic Media Independent Interface&quot; and perhaps we could here define xMII in clause 300 referring to XGMII, 25GMII, or 50GMII. Alternately we could create a new acronym (e.g., auMII) for the same xMII types we deal with, but I prefer using xMII.</td>
<td>W</td>
</tr>
</tbody>
</table>

Comment Type: E (Editorial), D (General), GR (General Reader), T (Technical). Comment Status: D (Dispatched), A (Accepted), R (Rejected). Response Status: O (Open), W (Written), C (Closed), Z (Withdrawn).
Proposed Response

Name errors, Clause 46 and Clause 106 do not use underscore.

Suggested Remedy

Change TX_D and TS_C to TXD and TXC if the current text survives comment.

PROPOSED ACCEPT.

Comment ID 182

Grow, Robert
RMG Consulting, KDPOF

Comment Type E  Comment Status D  EZ

Comment Status

Response Status

PROPOSED ACCEPT.

Comment ID 183

Grow, Robert
RMG Consulting, KDPOF

Comment Type E  Comment Status D  EZ

Comment Status

Response Status

PROPOSED ACCEPT.

Suggested Remedy

This introduction to PCS functionality didn't help me much with all of the data grouping names nor how they relate to each other. I personally prefer a top down description, and this introduction mixes top with bottom too much. Better separation of xMII data from PHD information in the description might help, as well as describing the TX path before any of the RX path. Suggested alternate text for lines 6 through 22 also introduces the concept of a payload data path and PHD path because that is helpful to understand what the PCS is doing before getting into too much detail of how it is doing it and it helps to mentally grasp the relationship of the data groupings.

Suggested Remedy

The MultiGBASE-AU PCS manages interleaving of xMII data streams with physical layer control information. The fixed-length Transmit Block provides the structure for time division multiplexing these two streams of information. A frame from the xMII can be contained in one or more Transmit Blocks, and xMII frame boundaries have no correlation to Transmit Block boundaries.

On the transmit path, the PCS repeatedly encodes 64-bits (8 octets) of the xMII data stream using 64B/65B encoding (see 300.2.3.4). The encoded xMII data stream is also referred to as the payload.

The physical layer control is organized into Physical Header Data (PHD), and the PHD is divided into a series of 20-bit long PHD Blocks. A PHD Block is placed in the Transmit Block after 80 64B/65B words of encoded data. The PHD Block is followed by 220 parity bits of RS-FEC.

The sequence of 80 64B/65 encoded data words followed by a PHD block followed by a RS-FEC parity is called an RS-FEC codeword. A Transmit Block holds 36 RS-FEC codewords.

On the receive path, the MultiGBASE-AU PCS error checks received RS-FEC codewords, and separates the payload from the control information. The received payload is decoded to create the xMII receive data stream. A series of received PHD blocks are concatenated to reconstruct the PHD (see 300.2.3.3).

PHD information keeps the receiver clock aligned with the transmitter, and provides link monitoring, Reed-Solomon Forward Error Correction (RS-FEC) encoding (see 300.2.3.5), additive scrambling (see 300.2.3.6), and PAM2 mapping (see 300.2.3.7).

PROPOSED ACCEPT IN PRINCIPLE. Combine with the re-structuring ideas in comments #52 and #66
<table>
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<td>CI 300 SC 300.1.4 P 74 L 27 # 185</td>
<td>CI 300 SC 300.2.1 P 76 L 14 # 188</td>
<td>CI 300 SC 300.2.1 P 76 L 14 # 189</td>
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<td>Grow, Robert</td>
<td>Grow, Robert</td>
<td>Grow, Robert</td>
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<td>RMG Consulting, KDPOF</td>
<td>RMG Consulting, KDPOF</td>
<td>RMG Consulting, KDPOF</td>
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<td><strong>Comment Type E</strong></td>
<td><strong>Comment Type E</strong></td>
<td><strong>Comment Type T</strong></td>
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<tr>
<td><strong>Comment Status D</strong></td>
<td><strong>Comment Status D</strong></td>
<td><strong>Comment Status D</strong></td>
</tr>
<tr>
<td>BASE-AU</td>
<td><strong>Typo</strong></td>
<td><strong>Position of shall statements</strong></td>
</tr>
<tr>
<td><strong>SuggestedRemedy</strong></td>
<td><strong>SuggestedRemedy</strong></td>
<td><strong>SuggestedRemedy</strong></td>
</tr>
<tr>
<td>The text seems to change style here, dropping use of MultiBASE-AU (first paragraph) and starting to use the list of 4 PHY types (on line 33 &quot;&lt;list&gt; PMA&quot; instead of MultiBASE-AU PMA). &quot;XGMII, 25GMII or 50GMII) will become more tiresome than the list of two which is already a problem. I question if we will only need one new clause because of the 50GMII differences but if we are really committed to a single new clause, then we should be consistent in including 50GBASE-AU as much as possible (with TBD for any specifications of how 50GBASE-AU will work).</td>
<td>This subclause has a number of shalls that are only linked to pointers. Generally, we strive for each shall to produce one PICS item, and this separation from the specifications can lead to duplicate shalls. The shall should typically be placed with the technical details, not in an introduction (overview) like these single sentence &quot;shall&quot; with reference.</td>
<td>Review that pointed to subclauses have an equivalent shall statement if relevant and remove the shall from these pointer sentences.</td>
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<td><strong>Proposed Response</strong></td>
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<td><strong>PROPOSED ACCEPT IN PRINCIPLE. Use BASE-AU instead of PHY types lists.</strong></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
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<td><strong>Grammar</strong></td>
<td><strong>Fewer words often is better.</strong></td>
<td><strong>Delete &quot;by&quot;.</strong></td>
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<tr>
<td><strong>SuggestedRemedy</strong></td>
<td><strong>SuggestedRemedy</strong></td>
<td><strong>SuggestedRemedy</strong></td>
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<tr>
<td>Start sentence with &quot;A&quot;.</td>
<td>Delete &quot;by&quot;.</td>
<td>Bad hot link references.</td>
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<td><strong>Proposed Response</strong></td>
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<td><strong>Proposed Response</strong></td>
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<td><strong>PROPOSED ACCEPT.</strong></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
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<td><strong>Page 34 of 59</strong></td>
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<td><strong>Response Status: O/open W/written C/closed Z/withdrawn</strong></td>
<td><strong>Page 34 of 59</strong></td>
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<td><strong>Sort Order:</strong> Comment ID</td>
<td><strong>Comment ID</strong></td>
<td><strong>05/03/2021 22:39:29</strong></td>
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</tbody>
</table>
The words "appended by" should be improved. Append is ambiguous, it means attached to, but only usually attached at the end. This is a recurring problem in the draft. In some cases order should not be ambiguous but in other cases where something is appended doesn't matter.

**Suggested Remedy**

Search on "append" (not full word) and replace if point of information being appended matters. For example, this case, with suitable additional clarification might appropriately read: "Each sequence of 80 PDBs is followed by a 20-bit PHD block..."

**Proposed Response**

PROPOSED ACCEPT.

---

"resulting bits" of what? Is it referring to the PDB and PHD block bits of a transmit block?

**Suggested Remedy**

Clarify, if I understand correctly: "The resulting 5220 bits (80 PDBs plus PHD block) are..."

**Proposed Response**

PROPOSED ACCEPT.

---

Awkward language: "and they conform". One incorrect interpretation (as I understand things) is: "...information bits. The 220 parity bits form an RS-FEC Codeword (CW)."

**Suggested Remedy**

"The 80 PDBs, PHD block, and 220 parity bits form an RS-FEC Codeword (CW)."

**Proposed Response**

PROPOSED ACCEPT.
The labeling on PDBs highlights a problem we created decades ago with keeping the name 8B/10B. IEEE style should have had us changing the name from the inventor 8B/10B to 8b/10b. (Capital B is byte an lower case b is bit.) We have consistently used a capital B in code names since, but hopefully do not use a captal B for bit anywhere else.

**Suggested Remedy**
Change 65B to 65-bit (like is done for 20-bit).

**Proposed Response**
PROPOSED ACCEPT.

---

**Comment ID** 201

**Description**
If these sentence are requirements, "shall" should be used.

**Suggested Remedy**
When these bits are set to 0000, the mode of operation shall be 2.5GBASE-AU.

**Proposed Response**
PROPOSED ACCEPT IN PRINCIPLE. The shall is referred to the proper use of this register, and is not described in Clause 300.

**Response Status** W

---

**Comment ID** 202

**Description**
If these sentence are requirements, "shall" should be used.

**Suggested Remedy**
Registers 3.500 through 3.508 shall be used ...

**Proposed Response**
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.
Cl 45 SC 45.2.3 P 31 L 45 # 203
Hayashi, Takehiro HAT Lab., Inc.
Comment Type E Comment Status D shall statements
If these sentence are requirements, "shall" should be used.
SuggestedRemedy
The transmit registers are used to ...
↓
The transmit registers shall be used to ...

Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.

Cl 45 SC 45.2.3.50.1 P 32 L 34 # 204
Hayashi, Takehiro HAT Lab., Inc.
Comment Type E Comment Status D shall statements
If these sentence are requirements, "shall" should be used.
SuggestedRemedy
requests ® shall request
Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.

Cl 45 SC 45.2.3.50.1 P 32 L 35 # 205
Hayashi, Takehiro HAT Lab., Inc.
Comment Type E Comment Status D shall statements
If these sentence are requirements, "shall" should be used.
SuggestedRemedy
is used ® shall be used, is changed ® shall be changed
Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.

Cl 45 SC 45.2.3.50.2 P 32 L 45 # 206
Hayashi, Takehiro HAT Lab., Inc.
Comment Type E Comment Status D shall statements
If these sentence are requirements, "shall" should be used.
SuggestedRemedy
reflects ® shall reflect
Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.

Cl 45 SC 45.2.3.50.3 P 32 L 50 # 207
Hayashi, Takehiro HAT Lab., Inc.
Comment Type E Comment Status D shall statements
If these sentence are requirements, "shall" should be used.
SuggestedRemedy
reflects ® shall reflect
Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.
Cl 45 SC 45.2.3.50.4 P 33 L 4 # 209
Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status D EZ
blacket ( ) is not necessary

SuggestedRemedy
Bit 3.500.12 ... when it accepts ... (simultaneously setting bit 3.500.15 to zero), acting as a one bit sequence number.
↓
Bit 3.500.12 ... when it accepts ..., acting as a one bit sequence number, simultaneously bit 3.500.15 shall be set to zero.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 45 SC 45.2.3.50.5 P 33 L 9 # 210
Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status D shall statements
If these sentence are requirements, "shall" should be used.
And the sentence after "and" may be incomplete.

SuggestedRemedy
contains ® shall contain
registers 3.501 through 3.508 (TXO_DATA1 through TXO_DATA8) the remaining 128 bits of ...
↓
registers 3.501 through 3.508 (TXO_DATA1 through TXO_DATA8) shall contain the remaining 128 bits of ...

Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.

Cl 45 SC 45.2.3.51 P 33 L 21 # 211
Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status X shall statements
If these sentence are requirements, "shall" should be used.

SuggestedRemedy
store ® shall sore

Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.
Hayashi, Takehiro
HAT Lab., Inc.

Comment Type E Comment Status X shall statements
If these sentence are requirements, "shall" should be used.

SuggestedRemedy
sets © shall set

Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.

Hayashi, Takehiro
HAT Lab., Inc.

Comment Type E Comment Status X shall statements
The sentence after "and" may be incomplete.

SuggestedRemedy
registers 3.510 through 3.517 ...
↓
registers 3.510 through 3.517 shall contain ...

Proposed Response Response Status W
PROPOSED REJECT. Shall statements are included in Clause 115, and the procedure and contents of the register is just a description here.

Hayashi, Takehiro
HAT Lab., Inc.

Comment Type E Comment Status D shall statements
If these sentence are requirements, "shall" should be used.

SuggestedRemedy
is chosen © shall be chosen

Proposed Response Response Status W
PROPOSED REJECT. This is a description, not a requirement.
Proposed Response

Add explanation of "test mode" in table 45-226a.

PROPOSED ACCEPT IN PRINCIPLE. Add some placeholder for test modes.

Hayashi, Takehiro
HAT Lab., Inc.

Proposed Response

If these sentences are requirements, "shall" should be used.

PROPOSED REJECT. This is a description, not a requirement.

Hayashi, Takehiro
HAT Lab., Inc.

Proposed Response

If these sentences are requirements, "shall" should be used.

PROPOSED ACCEPT.

Hayashi, Takehiro
HAT Lab., Inc.

Proposed Response

"LH = Latching high" is not used in the table.

PROPOSED ACCEPT.

Hayashi, Takehiro
HAT Lab., Inc.

Proposed Response

If these sentences are requirements, "shall" should be used.

PROPOSED REJECT. This is a description, not a requirement.

Hayashi, Takehiro
HAT Lab., Inc.
<table>
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<th>Page</th>
<th>Comment Type</th>
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<td>229</td>
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<td>X</td>
<td>W</td>
<td>Empty comment</td>
</tr>
<tr>
<td>230</td>
<td>45</td>
<td>E</td>
<td>if these sentences are requirements, &quot;shall&quot; should be used.</td>
<td>X</td>
<td>W</td>
<td>PROPOSED REJECT. This is a description, not a requirement</td>
</tr>
<tr>
<td>231</td>
<td>45</td>
<td>E</td>
<td>if these sentences are requirements, &quot;shall&quot; should be used.</td>
<td>X</td>
<td>W</td>
<td>PROPOSED REJECT. This is a description, not a requirement</td>
</tr>
<tr>
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Comment ID: 236
Page 41 of 59

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: Comment ID
Comment ID: 237

Hayashi, Takehiro
HAT Lab., Inc.

**Comment Type:** E
**Comment Status:** X

If these sentences are requirements, "shall" should be used.

**Suggested Remedy:**
indicates ® shall indicate

**Proposed Response**
Response Status: W

PROPOSED REJECT. This is a description, not a requirement

---

Comment ID: 238

Hayashi, Takehiro
HAT Lab., Inc.

**Comment Type:** E
**Comment Status:** X

If these sentences are requirements, "shall" should be used.

**Suggested Remedy:**
indicates ® shall indicate

**Proposed Response**
Response Status: W

PROPOSED REJECT. This is a description, not a requirement

---

Comment ID: 239

Hayashi, Takehiro
HAT Lab., Inc.

**Comment Type:** E
**Comment Status:** X

If these sentences are requirements, "shall" should be used.

**Suggested Remedy:**
indicates ® shall indicate

**Proposed Response**
Response Status: W

PROPOSED REJECT. This is a description, not a requirement

---

Comment ID: 241

Hayashi, Takehiro
HAT Lab., Inc.

**Comment Type:** E
**Comment Status:** X

If these sentences are requirements, "shall" should be used.

**Suggested Remedy:**
indicates ® shall indicate

**Proposed Response**
Response Status: W

PROPOSED REJECT. This is a description, not a requirement

---

Comment ID: 242

Hayashi, Takehiro
HAT Lab., Inc.

**Comment Type:** E
**Comment Status:** X

If these sentences are requirements, "shall" should be used.

**Suggested Remedy:**
report ® shall report

**Proposed Response**
Response Status: W

PROPOSED REJECT. This is a description, not a requirement

---

Comment ID: 243

Hayashi, Takehiro
HAT Lab., Inc.

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

"1" is just a number, an article is not used.

**Suggested Remedy:**
delete "a"

**Proposed Response**
Response Status: W

PROPOSED ACCEPT.

---

Comment ID: 244

Hayashi, Takehiro
HAT Lab., Inc.

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

"0" is just a number, an article is not used.

**Suggested Remedy:**
delete "a"

**Proposed Response**
Response Status: W

PROPOSED ACCEPT.
IEEE 802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

Ci 45 SC 45.5.3.7 P 40 L 36  # 245
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E  Comment Status D  EZ
1000BASE-H may typo
SuggestedRemedy
1000BASE-H © BASE-H
Proposed Response  Response Status W
PROPOSED ACCEPT.

Ci 45 SC 45.5.3.7 P 41 L 19  # 246
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E  Comment Status D  EZ
Table 45-226b is a wrong reference.
SuggestedRemedy
Table 45-226a
Proposed Response  Response Status W
PROPOSED ACCEPT.

Ci 45 SC 45.5.3.7 P 41 L 27  # 247
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E  Comment Status D  EZ
"1" is just a number, an article is not used.
SuggestedRemedy
delete "a"
Proposed Response  Response Status W
PROPOSED ACCEPT.

Ci 45 SC 45.5.3.7 P 41 L 30  # 248
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E  Comment Status D  EZ
"0" is just a number, an article is not used.
SuggestedRemedy
delete "a"
Proposed Response  Response Status W
PROPOSED ACCEPT.

Ci 105 SC 105.1.1 P 47 L 24  # 251
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type T  Comment Status D  optical fiber
The cabling won't be a single fiber structure.
SuggestedRemedy
a optical fiber © a pair of multimode optical fiber
Proposed Response  Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Replace with "25 Gb/s PHY using BASE-U encoding over optical fiber for use in automotive applications (see Clause 300).". See #150

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: Comment ID
Comment ID 251  Page 43 of 59  05/03/2021  22:39:30
Comment Type: E  Comment Status: D  Clause 115 modification
Add explanations about the prefix "LOCPHD" and "REMPHD" as described in page 82.

Suggested Remedy:
- add the following descriptions,

Each PHY has to deal with transmit and receive PHDs simultaneously. The prefix LOCPHD refers to the fields of the PHD to be included in the next Transmit Block transmitted to the link partner from the local PHY. LOCPHD fields assigned by the state diagrams shall be sampled at the start of a Transmit Block by the PHD Builder to create the PHD included in that current Transmit Block.

The prefix REMPHD refers to the fields of the most recent PHD received, decoded and validated from the link partner (from the remote PHY). The new values of REMPHD fields shall be available to the state diagrams and registers immediately after reception, decoding, and validation of the entire PHD and before the reception of the Transmit Block that includes that PHD is completed.

Proposed Response  Response Status: W
PROPOSED REJECT. Descriptions are in the original subclause 115.3.4. In D1.0, only the proposed changed text is shown.

Comment ID: 256  Page 44 of 59
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: Comment ID
**Comment ID: 257**

Cl 115 SC 115.9.1 P 52 L 53 # 257

Hayashi, Takehiro  
HAT Lab., Inc.

**Comment Type:** E  
**Comment Status:** D  
**Suggested Remedy:**

"does" looks ambiguous expression. Also, if these sentences are requirements, "shall" should be used.

**Proposed Response:**

does ◐ shall execute

**Response Status:** W

**Comment Status:** D

PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

---

**Comment ID: 258**

Cl 115 SC 115.9.1 P 53 L 1 # 258

Hayashi, Takehiro  
HAT Lab., Inc.

**Comment Type:** E  
**Comment Status:** D  
**Suggested Remedy:**

TXO_REQ is a bit name but not a bit itself. Should follow the consistent expression.

**Proposed Response:**

bit TXO_REQ ◐ bit 3.500.15 (TXO_REQ)

**Response Status:** W

**Comment Status:** D

PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

---

**Comment ID: 259**

Cl 115 SC 115.9.1 P 53 L 2 # 259

Hayashi, Takehiro  
HAT Lab., Inc.

**Comment Type:** E  
**Comment Status:** D  
**Suggested Remedy:**

TXO_MSGT is a bit name but not a bit itself. Should follow the consistent expression.

**Proposed Response:**

bit TXO_MSGT ◐ bit 3.500.12 (TXO_MSGT)

**Response Status:** W

**Comment Status:** D

PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

---

**Comment ID: 260**

Cl 115 SC 115.9.1 P 53 L 3 # 260

Hayashi, Takehiro  
HAT Lab., Inc.

**Comment Type:** E  
**Comment Status:** D  
**Suggested Remedy:**

TXO_DATA0 is a bit name but not a bit itself. Should follow the consistent expression.

**Proposed Response:**

bit TXO_DATA0 ◐ bit 3.500.11:0 (TXO_DATA0)

**Response Status:** W

**Comment Status:** D

PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

---

**Comment ID: 261**

Cl 115 SC 115.9.1 P 53 L 7 # 261

Hayashi, Takehiro  
HAT Lab., Inc.

**Comment Type:** E  
**Comment Status:** D  
**Suggested Remedy:**

If these sentences are requirements, "shall" should be used.

**Proposed Response:**

does ◐ shall not

**Response Status:** W

**Comment Status:** D

PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

---

**Comment ID: 262**

Cl 115 SC 115.9.1 P 53 L 15 # 262

Hayashi, Takehiro  
HAT Lab., Inc.

**Comment Type:** E  
**Comment Status:** D  
**Suggested Remedy:**

If these sentences are requirements, "shall" should be used.

**Proposed Response:**

always maintain ◐ shall maintain

**Response Status:** W

**Comment Status:** D

PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

---
IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

Cl. 115 SC 115.9.1 P 53 L 20
Hayashi, Takehiro HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification
Is there any technical meaning for "outstanding"?

Suggested Remedy
If no technical meaning, delete "outstanding"

Proposed Response  Response Status: W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl. 115 SC 115.9.3 P 54 L 37
Hayashi, Takehiro HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification
If these sentences are requirements, "shall" should be used.

Suggested Remedy
does not © shall not

Proposed Response  Response Status: W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl. 115 SC 115.9.3 P 54 L 40
Hayashi, Takehiro HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification
RXOVAL is a bit name but not a bit itself. Should follow the consistent expression.

Suggested Remedy
bit RXOVAL ® bit 3.509.15 (RXOVAL)

Proposed Response  Response Status: W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl. 115 SC 115.9.3 P 54 L 48
Hayashi, Takehiro HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification
RXOVAL, RXOMSGT, and RXODATA0 are bit names but not bits themselves. Should follow the consistent expression.

Suggested Remedy
bit RXOVAL ® bit 3.509.15 (RXOVAL)
bite RXOMSGT ® bit 3.509.12 (RXOMSGT)
bite RXODATA0 ® bit 3.509.11:0 (RXODATA0)

Proposed Response  Response Status: W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

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: Comment ID

Comment ID 263  Page 46 of 59  05/03/2021  22:39:30
IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments

Comment ID 269
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E Comment Status D Clause 115 modification
If these sentences are requirements, "shall" should be used.

SuggestedRemedy
always maintain ® shall maintain

Proposed Response Response Status W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Comment ID 270
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E Comment Status D Clause 115 modification
If these sentences are requirements, "shall" should be used.

SuggestedRemedy
always maintain ® shall maintain

Proposed Response Response Status W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Comment ID 271
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E Comment Status D Clause 115 modification
"follow" sounds ambiguous.

SuggestedRemedy
Change "are defined as follows"

Proposed Response Response Status W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Comment ID 272
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E Comment Status D Clause 115 modification
RXO_MSGT is a bit name but not a bit itself. Should follow the consistent expression.

SuggestedRemedy
bit RXO_MSGT ® bit 3.509.12 (RXO_MSGT)

Proposed Response Response Status W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Comment ID 273
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E Comment Status D Clause 115 modification
RXO_DATA0 is a bit name but not a bit itself. Should follow the consistent expression.

SuggestedRemedy
bit RXO_DATA0 ® bit 3.509.11:0 (RXO_DATA0)

Proposed Response Response Status W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Comment ID 274
Hayashi, Takehiro  HAT Lab., Inc.
Comment Type E Comment Status D Clause 115 modification
RXO_DATA1, RXO_DATA8 are bit name but not bit themselves. Should follow the consistent expression.

SuggestedRemedy
bit RXO_DATA1 ® bit 3.510.15:0 (RXO_DATA1)
bit RXO_DATA8 ® bit 3.517.15:0 (RXO_DATA8)

Proposed Response Response Status W
PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

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: Comment ID

Comment ID 274
Hayashi, Takehiro  
HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification

RXO_VAL is a bit name but not a bit itself. Should follow the consistent expression.

Suggested Remedy:
bit RXO_VAL ® bit 3.509.15 (RXO_VAL)

Proposed Response: W  Response Status: PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification.

Hayashi, Takehiro  
HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification

TXO_MERT is a bit name but not a bit itself. Should follow the consistent expression.

Suggested Remedy:
bit TXO_MERT ® bit 3.500.13 (TXO_MERT)

Proposed Response: W  Response Status: PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification.

Hayashi, Takehiro  
HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification

TXO_MSGT is a bit name but not a bit itself. Should follow the consistent expression.

Suggested Remedy:
bit TXO_MSGT ® bit 3.500.12 (TXO_MSGT)

Proposed Response: W  Response Status: PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification.

Hayashi, Takehiro  
HAT Lab., Inc.

Comment Type: E  Comment Status: D  Clause 115 modification

TXO_PHYT is a bit name but not a bit itself. Should follow the consistent expression.

Suggested Remedy:
bit TXO_PHYT ® bit 3.500.14 (TXO_PHYT)

Proposed Response: W  Response Status: PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification.
<table>
<thead>
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<th>Page</th>
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<td>TXO_REQ is a bit name but not a bit itself. Should follow the consistent expression.</td>
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Hayashi, Takehiro

Comment Type E

Comment Status X

Clause 115 modification

Proposed Response

Response Status W

PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification.

Hayashi, Takehiro

Comment Type T

Comment Status D

"optical fiber" is ambiguous

SuggestedRemedy

decide to "a pair of multimode optical fiber"

Proposed Response

Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See #150

Hayashi, Takehiro

Comment Type T

Comment Status D

2.5GBASE-AU "M" for 2.5GBASE-T1 is wrong

SuggestedRemedy

delete "M"

Proposed Response

Response Status W

PROPOSED ACCEPT.

5GBASE-AU "M" for 5GBASE-T1 is wrong

SuggestedRemedy

delete "M"

Proposed Response

Response Status W

PROPOSED ACCEPT.
Comment ID 301

Cl. 300  SC. 300.1.3  P. 72  L. 30  # 301
Hayashi, Takehiro  HAT Lab., Inc.

Comment Type  E  Comment Status  D  BASE-AU

Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"

SuggestedRemedy
Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"

Proposed Response  Response Status  W
PROPOSED ACCEPT IN PRINCIPLE.
The term BASE-AU will be used to refer to all PHYs.

Comment ID 304

Cl. 300  SC. 300.1.4  P. 73  L. 34  # 304
Hayashi, Takehiro  HAT Lab., Inc.

Comment Type  E  Comment Status  D  BASE-AU

The sentence line 34 - 37 is very confusing.

SuggestedRemedy
Each optical fiber transmits light with specified wave length in the counter direction and one end of the optical fiber connects to a MultiGBASE-AU compliant PMD transmitter (TX) and the other end connects to the link partner's MultiGBASE-AU compliant PMD receiver (RX).

Proposed Response  Response Status  W
TFTD. Text proposal.
**Comment 305**

**Comment Type:** 
T: position of PCS TX/RX and PMD TX/RX in the right side is wrong.

**Suggested Remedy:**
- PMD TX/RX shall be left side of PMA and PCS TX/RX shall be right side of PMA.
- PCS TX/RX looks like detachable mechanical interface like MDI.

**Proposed Response:**
- PROPOSED ACCEPT.

**Comment 306**

**Comment Type:** 
T: PCS TX/RX looks like detachable mechanical interface like MDI.

**Suggested Remedy:**
- This is a topology diagram not indicating a particular implementation. Add dashed-line box to indicate the BASE-AU PHY.

**Proposed Response:**
- PROPOSED REJECT.

**Comment 307**

**Comment Type:** 
T: Make the relations to PHY sublayers more clear.

**Suggested Remedy:**
- PROPOSED ACCEPT.

**Comment 308**

**Comment Type:** 
E: Is there any special reasons using capitals for the term "Transmit Blocks"?

**Suggested Remedy:**
- If not, use lower case.

**Proposed Response:**
- PROPOSED REJECT. It is a proper name.

**Comment 309**

**Comment Type:** 
E: Add the reference of "PHD reception monitor state diagram"

**Suggested Remedy:**
- Add (see 3.4.5)

**Proposed Response:**
- PROPOSED ACCEPT.

**Comment 310**

**Comment Type:** 
E: Use the same reference

**Suggested Remedy:**
- Change 300.3.5 to 300.3.5.3

**Proposed Response:**
- PROPOSED ACCEPT.

**Comment 311**

**Comment Type:** 
E: Hard to understand Fig 300-10.

**Suggested Remedy:**
- Separate the figure into data block format part and control block format part, then add 63 vertical dot lines to represent bits.

**Proposed Response:**
- PROPOSED ACCEPT.

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

**Comment Status:** D/dispatched  A/accepted  R/rejected  O/open  W/written  C/closed  Z/withdrawn

**Sort Order:** Comment ID
Comment ID 312
Hayashi, Takehiro
HAT Lab., Inc.
Comment Type E Comment Status D
No definition for "Blind tracking algorithms"
SuggestedRemedy
add definition
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE. Remove sentence per comment #109

Comment ID 313
Hayashi, Takehiro
HAT Lab., Inc.
Comment Type E Comment Status D
"transit" may not a proper term.
SuggestedRemedy
Use "transition"
Proposed Response Response Status W
PROPOSED REJECT. It is a verb, not a noun.

Comment ID 314
Hayashi, Takehiro
HAT Lab., Inc.
Comment Type T Comment Status D
No explanation of step "PMAMON_SYNCH"
SuggestedRemedy
add explanation of "PMAMON_SYNCH"
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE. Substitute "After at least one locally transmitted Transmit Block" by "After at least one locally transmitted Transmit Block (PMAMON_SYNCH state)"

Abbott, John
Corning
Comment Type E Comment Status D
change PAM2 to NRZ. There seems to an consistency in 802.3 standard between using the term NRZ or PAM2. At the beginning of clause 300, it makes sense to state we are using the terms interchangeably. Clauses 11, 24, 25, 26, 58, 68, 120, use NRZ. These are glass optical clauses and this is a glass optical standard. Clauses 55, 97, 113, 126 use PAM2 and these are COPPER. Clause 115 (POF) used PAM2 like the copper clauses. It might make sense for maintenance somewhere to explain they are the same. If they are not the same, then this clause 300 would be a good place to explain why PAM2 is being used. There might be an excellent reason.
SuggestedRemedy
change PAM2 to NRZ or explain they are the same
Proposed Response Response Status W
PROPOSED ACCEPT.

Abbott, John
Corning
Comment Type E Comment Status D
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Proposed Response Response Status W
PROPOSED ACCEPT.
<table>
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<th>Comment ID</th>
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<th>Proposed Response</th>
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<tr>
<td>318</td>
<td>30</td>
<td>21</td>
<td>E</td>
<td>D</td>
<td>change PAM2 to NRZ</td>
<td>PROPOSED ACCEPT.</td>
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<td>47</td>
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<td>E</td>
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IEEE 802.cz Multi-Gig Aut  IEEE P802.3cz D1.0 Multi-Gig Automotive Optical Ethernet PHY 1st Task Force review comments  D 1.0 Comment Report

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<td>Rationale: &quot;to support specific requirements for installation in a vehicle&quot; is adequate; we don't know what the connector requirements will be yet.</td>
<td>Delete &quot;: Kojiri-safe, dust protection, vibration robustness, tensile strength, etc.&quot;</td>
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Comment ID 349  Page 58 of 59  05/03/2021  22:39:30

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: Comment ID
Cl 300 SC 300.1.1 P71 L42 # 350
Swanson, Steve Corning Inc
Comment Type E Comment Status D
Rationale: there are 5 distinct PHY types.
SuggestedRemedy
Replace “…four distinct PHY types…” with “…five distinct PHY types…”
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P73 L42 # 351
Swanson, Steve Corning Inc
Comment Type E Comment Status D
SuggestedRemedy
Delete “…concrete…”
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 300 SC 300.7 P L # 352
Swanson, Steve Corning Inc
Comment Type E Comment Status D
Should we flip the order of 300.7 and 300.8?
SuggestedRemedy
Proposed Response Response Status W
PROPOSED REJECT.
The current order in Draft 1.0 for channel and MDI definition is a mere placeholder, and it is up to the MDI/channel baseline proponent to change or not the order.