

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.

Cl 00 SC P L # 353

NoName

Comment Type E Comment Status X

SuggestedRemedy

Proposed Response Response Status O

Cl 30,3 SC 30,3 P 21 L 4 # 126

Hyakutake, Yasuhiro Adamant Namiki Precision Jewel Co., Ltd.

Comment Type E Comment Status D

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

SuggestedRemedy

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

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 Response Response Status W

PROPOSED ACCEPT.

Cl 105 SC 105.1.3 P 47 L 27 # 23

Pérez-Aranda, Rubén KDPOF

Comment Type E Comment Status D

The term RS-FEC is already in use for referring other clauses. It can generate confusion (e.g. same RS of 25GBASE-T?)

SuggestedRemedy

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 Response Response Status W

PROPOSED REJECT.

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

Cl 300,1 SC 300,1 P 71 L 20 # 127

Hyakutake, Yasuhiro Adamant Namiki Precision Jewel Co., Ltd.

Comment Type E Comment Status D

I recommend the final sentence conjunction word may choose "and", if the 50GBASE-AU Physical Layer as the same equivalency a 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU.

SuggestedRemedy

The conjunction word "or" change to "and".

Proposed Response Response Status W

PROPOSED REJECT.

Accepting this comment would change the meaning of the sentence. A set of PCS, PMA and PMD sublayer can only 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 "or".

Cl 300 SC 300.1.1 P 71 L 46 # 300

Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status D

For immediate usage of "MultiGBASE-AU" after this, add "hereafter" at the end of the sentence.

*SuggestedRemedy*

Add "hereafter" after "50GBASE-AU PHYs".

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 73 L 34 # 304

Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status D

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.

Cl 300 SC 300.1.4 P 73 L 48 # 306

Hayashi, Takehiro HAT Lab., Inc.

Comment Type T Comment Status D

PCS TX/RX looks like detachable mechanical interface like MDI.

*SuggestedRemedy*

Proposed Response Response Status W

PROPOSED REJECT.

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

Cl 300 SC 300.1.4 P 74 L 9 # 308

Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status D

Is there any special reasons using capitals for the term "Transmit Blocks"?

*SuggestedRemedy*

If not, use lower casea.

Proposed Response Response Status W

PROPOSED REJECT. It is a proper name.

Cl 300 SC 300.1.4 P 74 L 13 # 45

Pérez-Aranda, Rubén KDPOF

Comment Type T Comment Status D

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.

*SuggestedRemedy*

Modify per comment.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 75 L # 307

Hayashi, Takehiro HAT Lab., Inc.

Comment Type T Comment Status D

Make the relations to PHY sublayers more clear.

*SuggestedRemedy*

Proposed Response Response Status W

TFTD

Cl 300 SC 300.1.4 P 75 L 32 # 50  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D  
 I miss PMD\_RXDETECT.indication in the PMD service interface. It is very common to every optical PHY and independent of LPI specification.  
**SuggestedRemedy**  
 Add PMD\_RXDETECT.indication.  
**Proposed Response** Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. Although there is no PMD baseline adoption, this primitive is customary to be included in all optical PHYs.

Cl 300 SC 300.2.1 P 76 L 17 # 191  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D  
 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.  
**SuggestedRemedy**  
 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** Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 21 # 192  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D  
 "resulting bits" of what? Is it referring to the PDB and PHD block bits of a transmit block?  
**SuggestedRemedy**  
 Clarify. If I understand correctly: "The resulting 5220 bits (80 PDBs plus PHD block) are..."  
**Proposed Response** Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 21 # 54  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D  
 Galois field is not indicated, and needs to be deducted from the parity length.  
**SuggestedRemedy**  
 "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** Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 77 L 35 # 60  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D  
 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. Adder is not specified and it should be mod-2 or xor. Taking into account that these figures are intended to indicate ordering, a simple box should be good enough.  
**SuggestedRemedy**  
 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 P 79 L 1 # 64  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D  
 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.  
**SuggestedRemedy**  
 Add "Interleaved" per baseline.  
**Proposed Response** Response Status W  
 PROPOSED REJECT.  
 Interleaving is already specified in the transmission ordering.

Cl 300 SC 300.2.3.3.1 P 82 L 50 # 71

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D

Per baseline it is not correct. Also in line 51

*SuggestedRemedy*

Change to: "... and validation of the entire PHD and before the decoding of first RS-FEC codeword of the next received transmit block."

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.2.3.4.2 P 85 L 1 # 311

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status X

Hard to understand Fig 300-10.

*SuggestedRemedy*

separate the figure into data block format part and control block format part, then add 63 vertical dot lines to represent bits.

Proposed Response Response Status W

TFTD. I think adding 64 vertical lines will make the figure unreadable.

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.

*SuggestedRemedy*

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 300.2.4 P 90 L 28 # 85

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D

What is code-group? What is parameter rx\_symb?

*SuggestedRemedy*

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 300.2.4.3 P 91 L 5 # 90

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D

PCS descrambler is connected to RS-FEC decoder.

*SuggestedRemedy*

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. To The PCS descrambles the data stream and returns the proper sequence of bits to the RS-FEC decoder.

Proposed Response 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"

Cl **300,3** SC **300,3** P **91** L **26** # **95**  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type **E** Comment Status **D**  
 "for control of the MultiGBASE-AU PHY and link (see 300.3.4) and for PHY link quality (see 300.3.5)" phrase is redundant and unclear.  
 SuggestedRemedy  
 E.g.: "for PHY and link management (see 300.3.4 and 300.3.5)"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Replace "for control of the MultiGBASE-AU PHY and link (see 300.3.4) and for PHY link quality (see 300.3.5)." with "for PHY control and link monitoring (see 300.3.4) and link quality (see 300.3.5)."

Cl **300** SC **300.3.4.3** P **96** L **5** # **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

Cl **300** SC **300.3.4.3** P **96** L **23** # **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.

Cl **300** SC **300.3.5.3** P **100** L **31** # **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)"

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.

Cl **1** SC **1.4.333a** P **20** L **3** # **1**  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type **T** Comment Status **A** **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.  
 SuggestedRemedy  
 Replace MultiGBASE-AU with BASE-AU.  
 Response Response Status **C**  
 ACCEPT.

Cl 300 SC 300.1.3 P 72 L 23 # 301  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status A BASE-AU  
 Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"  
 SuggestedRemedy  
 Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"  
 Response Response Status C  
 ACCEPT.  
 The term BASE-AU will be used to refer to all PHYs.

Cl 300 SC 300.1.3 P 72 L 26 # 302  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status A BASE-AU  
 Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"  
 SuggestedRemedy  
 Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"  
 Response Response Status C  
 ACCEPT.  
 The term BASE-AU will be used to refer to all PHYs.

Cl 300 SC 300.1.4 P 73 L 30 # 303  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status A BASE-AU  
 Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"  
 SuggestedRemedy  
 Chage "2.5GBASE-AU ...." to "MultiGBASE-AU"  
 Response Response Status C  
 ACCEPT.  
 The term BASE-AU will be used to refer to all PHYs.

Cl 300 SC 300.1.4 P 74 L 27 # 185  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status A BASE-AU  
 The text seems to change style here, dropping use of MultiGBASE-AU (first paragraph) and starting to use the list of 4 PHY types (on line 33 "<list> PMA" instead of MultiGBASE-AU PMA). "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)..

## SuggestedRemedy

The best thing to save editorial effort might be to leave this style problem until the TF picks a baseline for 50GBASE-AU, but it appears unlikely that that will happen for D1.1 . IMO, 50GBASE-AU would be the motivation to have more than one clause because it will be more than just a different rate (e.g., different xMII width, perhaps multiple lanes, etc.) To not defer this problem, pick either using MultiGBASE-AU instead of PHY types lists or replace those terms consistently with PHY type lists.

Response Response Status C

ACCEPT. Use BASE-AU instead of PHY types lists.

Cl 1 SC 1.4.333a P 20 L 3 # 2  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A 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.  
 SuggestedRemedy  
 Add definition of BASE-U. See as an example 1.4.3 1000BASE-H.  
 Response Response Status C  
 ACCEPT IN PRINCIPLE. In case that 50 Gbps donot share the same PCS/PMA, we should select a different PHY name accordingly

Cl 44 SC Figure 44-1 P 25 L 37 # 163  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type T Comment Status A BASE-U  
 The other five architectural PCS sublayers have a name, shouldn't we?  
 SuggestedRemedy  
 Add appropriate neme for our chosen PCS, possibly 64B/65B RS PCS.  
 Response Response Status C  
 ACCEPT IN PRINCIPLE. Proposal is to name as BASE-U PCS. See #5

Cl 44 SC 44.1.3 P 25 L 44 # 5 [REDACTED]  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A 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.  
**SuggestedRemedy**  
 For 10 GBASE-AU, replace PCS with BASE-U PCS and PMA with BASE-U PMA.  
**Response** Response Status C  
 ACCEPT.

Cl 45 SC 45.2.1 P 28 L 19 # 9 [REDACTED]  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A BASE-U  
 Should it be more convenient to use the term BASE-AU i/o MultiGBASE-AU. There is no  
 other -AU PHY. Also in lines 35, 48  
 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.  
**SuggestedRemedy**  
 Replace MultiGBASE-AU with BASE-AU.  
**Response** Response Status C  
 ACCEPT.

Cl 45 SC 45.2.1 P 29 L 9 # 10 [REDACTED]  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A BASE-U  
 Here BASE-AU is used i/o MultiGBASE-AU. A single term should be used across the draft.  
**SuggestedRemedy**  
 Do nothing if MultiGBASE-AU is replaced with BASE-AU.  
**Response** Response Status C  
 ACCEPT.

Cl 45 SC 45.2.3 P 31 L 29 # 12 [REDACTED]  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A BASE-U  
 They are PCS registers. BASE-U PCS xxx naming is more appropriate. Also in lines 30, 31  
**SuggestedRemedy**  
 Replace MultiGBASE-AU with BASE-U.  
**Response** Response Status C  
 ACCEPT.

Cl 105 SC 105.1.3 P 46 L 46 # 22 [REDACTED]  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A BASE-U  
 Nomenclature of figure 105-1 is not consistent with Figure 44-1.  
**SuggestedRemedy**  
 Replace 25GBASE-AU PCS with BASE-U PCS. Replace PMA with BASE-U PMA.  
**Response** Response Status C  
 ACCEPT IN PRINCIPLE. See #5

Cl 125 SC 125.1.3 P 62 L 33 # 27 [REDACTED]  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A BASE-U  
 For consistency, same nomenclature should be used in Fig 44-1, 105-1, 125-1. Also in  
 lines 34, 35  
**SuggestedRemedy**  
 Replace 2.5GBASE-AU PCS and 5GBASE-AU PCS with BASE-U PCS. Replace PMA with  
 BASE-U PMA.  
**Response** Response Status C  
 ACCEPT.

Cl 131 SC 131.1.2 P 66 L 25 # 31

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A BASE-U

For consistency, same nomenclature should be used in Fig 44-1, 105-1, 125-1 and 131-1.  
Also in lines 26, 27

*SuggestedRemedy*

Replace 50GBASE-AU PCS with BASE-U PCS. Replace PMA with BASE-U PMA.

This change can be postponed until 50G baseline for PCS and PMA is adopted.

Response Response Status C

ACCEPT IN PRINCIPLE.  
See #5

Cl 300,1 SC 300,1 P 71 L 15 # 38

Pérez-Aranda, Rubén

KDPOF

Comment Type E Comment Status A BASE-U

According to PHY naming conventions, U is used to designate PCS and PMA, and A used for PMD and complete PHY naming.

*SuggestedRemedy*

In the first part of the paragraph, where PCS and PMA is referred, use BASE-U.

Response Response Status C

ACCEPT.

Cl 300,1 SC 300,1 P 71 L 15 # 39

Pérez-Aranda, Rubén

KDPOF

Comment Type E Comment Status A BASE-U

If BASE-U and BASE-AU are defined, it would be convenient to include some description in the overview.

*SuggestedRemedy*

Add description if BASE-U and/or BASE-AU are added to c/ 1.4.

Response Response Status C

ACCEPT.

Cl 300 SC 300.1.1 P 71 L 44 # 42

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A BASE-U

Consider the use of BASE-AU i/o MultiGBASE-AU.

*SuggestedRemedy*

Per comment. If agreed, make general change.

Response Response Status C

ACCEPT.

Cl 300 SC 300.6.1 P 104 L 46 # 121

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A BASE-U

According to PHY name conventions, BASE-U identifies the PCS and PMA, and BASE-AU the PMD or complete PHY.

*SuggestedRemedy*

Correct per comment.

Response Response Status C

ACCEPT IN PRINCIPLE.

Substitue "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."



Cl 115 SC 115.3.4 P 52 L 24 # 252

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status R Clause 115 modification

Add explanations about the prefix "LOCPHD" and "REMPHD" as described in page 82.

*SuggestedRemedy*

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.

Response Response Status C

REJECT.

Descriptions are in the original subclause 115.3.4. In D1.0, only the proposed changed text is shown.

Cl 115 SC 115.9.1 P 52 L 47 # 253

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status R Clause 115 modification

TXO\_REQ is a bit name but not a bit itself. Should follow the consistent expression.

*SuggestedRemedy*

bit TXO\_REQ @ bit 3.500.15 (TXO\_REQ)

Response Response Status C

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

Cl 115 SC 115.9.1 P 52 L 50 # 254

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status R Clause 115 modification

TXO\_DATA0 is a bit name but not a bit itself. Should follow the consistent expression.

*SuggestedRemedy*

bit TXO\_DATA0 @ bit 3.500.11:0 (TXO\_DATA0)

Response Response Status C

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

Cl 115 SC 115.9.1 P 52 L 51 # 255

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status R Clause 115 modification

TXO\_REQ is a bit name but not a bit itself. Should follow the consistent expression.

*SuggestedRemedy*

bit TXO\_REQ @ bit 3.500.15 (TXO\_REQ)

Response Response Status C

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

Cl 115 SC 115.9.1 P 52 L 53 # 256

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status R Clause 115 modification

The sentence should be separated by ",".

*SuggestedRemedy*

add "," between "transmission" and "it".

Response Response Status C

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

Cl 115 SC 115.9.1 P 53 L 1 # 258

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status R Clause 115 modification

TXO\_REQ is a bit name but not a bit itself. Should follow the consistent expression.

*SuggestedRemedy*

bit TXO\_REQ @ bit 3.500.15 (TXO\_REQ)

Response Response Status C

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

Cl 115 SC 115.9.1 P 53 L 2 # 259

Hayashi, Takehiro

HAT Lab., Inc.

Comment Type E Comment Status R Clause 115 modification

TXO\_MSGT is a bit name but not a bit itself. Should follow the consistent expression.

*SuggestedRemedy*

bit TXO\_MSGT @ bit 3.500.12 (TXO\_MSGT)

Response Response Status C

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

Cl 115 SC 115.9.1 P 53 L 3 # 260  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_DATA0 is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit TXO\_DATA0 @ bit 3.500.11:0 (TXO\_DATA0)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.1 P 53 L 7 # 261  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 does not @ shall not  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.1 P 53 L 15 # 262  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 always maintain @ shall maintain  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.1 P 53 L 20 # 263  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 Is there any technical meaning for "outstanding"?  
 SuggestedRemedy  
 If no technical meaning, dealeat "outstanding"  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 54 L 37 # 264  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 does not @ shall not  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 54 L 40 # 265  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_VAL is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit RXO\_VAL @ bit 3.509.15 (RXO\_VAL)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 54 L 41 # 266  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 Clarify local or remote of "the PHY"  
 SuggestedRemedy  
 "local" ?  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 54 L 48 # 267  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_VAL is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit RXO\_VAL @ bit 3.509.15 (RXO\_VAL)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 54 L 51 # 268  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_VAL, RXO\_MSGT, and RXO\_DATA0 are bit names but not bits themselves. Should follow the consistant expression.  
 SuggestedRemedy  
 bit RXO\_VAL @ bit 3.509.15 (RXO\_VAL)  
 bit RXO\_MSGT @ bit 3.509.12 (RXO\_MSGT)  
 bit RXO\_DATA0 @ bit 3.509.11:0 (RXO\_DATA0)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 55 L 11 # 269  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 always maintain @ shall maintain  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 55 L 15 # 270  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 always maintain @ shall maintain  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 55 L 24 # 271  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 "follow" sounds ambiguous.  
 SuggestedRemedy  
 Change "are defined as follows"  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 55 L 51 # 272  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_MSGT is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit RXO\_MSGT @ bit 3.509.12 (RXO\_MSGT)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 2 # 273  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_DATA0 is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit RXO\_DATA0 @ bit 3.509.11:0 (RXO\_DATA0)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 3 # 274  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_DATA1, RXO\_DATA8 are bit name but not bit themselves. Should follow the consistant expression.  
 SuggestedRemedy  
 bit RXO\_DATA1 @ bit 3.510.15:0 (RXO\_DATA1)  
 bit RXO\_DATA8 @ bit 3.517.15:0 (RXO\_DATA8)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 7 # 275  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_VAL is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit RXO\_VAL @ bit 3.509.15 (RXO\_VAL)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 28 # 276  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_MERT is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit TXO\_MERT @ bit 3.500.13 (TXO\_MERT)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 33 # 277  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_MSGT is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit TXO\_MSGT @ bit 3.500.12 (TXO\_MSGT)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 38 # 278  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 "the TXO\_DATA0" is not field but bit.  
 SuggestedRemedy  
 TXO\_DATA0 field @ bit 3.500.11:0 (TXO\_DATA0)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 39 # 279  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_DATA1 and TXO\_DATA8 is bit names. Should follow the consistant expression.  
 SuggestedRemedy  
 TXO\_DATA1 @ bit 3.501.15:0 (TXO\_DATA1)  
 TXO\_DATA8 @ bit 3.508.15:0 (TXO\_DATA8)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 43 # 280  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_OHYT is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit TXO\_PHYT @ bit 3.500.14 (TXO\_PHYT)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.3 P 56 L 48 # 281  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_REQ is a bit name but not a bit itself. Should follow the consistant expression.  
 SuggestedRemedy  
 bit TXO\_REQ @ bit 3.500.15 (TXO\_REQ)  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.2 P 58 L 8 # 282  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_MERT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.2 P 58 L 9 # 283  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_PHYT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.2 P 58 L 14 # 284  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_DATA0  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.2 P 58 L 16 # 285  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_MSGT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.2 P 58 L 16 # 286  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_REQ  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.2 P 58 L 22 # 287  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_PHYT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.2 P 58 L 23 # 288  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 TXO\_MERT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.3 P 58 L 40 # 289  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_MSGT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.3 P 58 L 45 # 290  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_DATA0  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.3 P 58 L 46 # 292  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_MSGT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.3 P 58 L 46 # 291  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_VAL  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.3 P 58 L 53 # 293  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_VAL  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 115 SC 115.9.4.3 P 59 L 46 # 294  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status R Clause 115 modification  
 RXO\_MSGT  
 SuggestedRemedy  
 see #281  
 Response Response Status C  
 REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 45 SC 45.2.3.47c.1 P 37 L 48 # 19  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A Cross reference  
 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.  
 SuggestedRemedy  
 Replace with a cross reference to C/300.

Response Response Status C  
 ACCEPT.

Cl 45 SC 45.2.3.47d.1 P 38 L 15 # 20  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A Cross reference  
 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.  
 SuggestedRemedy  
 Replace with a cross reference to C/300.

Response Response Status C  
 ACCEPT.

Cl 300 SC 300.2.3.3.1 P 80 L 52 # 69  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status A 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.  
 Response Response Status C  
 ACCEPT.

**Cl 300** SC **300.3.5.3** P **100** L **24** # **118**  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type **T** Comment Status **A** 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.  
 Response Response Status **C**  
 ACCEPT.

**Cl 105** SC **105.3.2** P **48** L **48** # **24**  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type **T** Comment Status **D** Details  
 Many details compared with PMA and PMD. Will need to be updated with C/300 accordingly.  
**SuggestedRemedy**  
 Replace text with: "The 25GBASE-AU PCS is specified in Clause 300."  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

**Cl 131** SC **131.2.2** P **67** L **46** # **35**  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type **E** Comment Status **D** Details  
 Many details compared with PMA and PMD. Will need to bePMD updated with C/300 accordingly.  
**SuggestedRemedy**  
 Replace text with: "The 50GBASE-AU PCS is specified in Clause 300." Easier to maintain.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

**Cl 45** SC **45.2.3.47b** P **35** L **51** # **16**  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type **T** Comment Status **D** *EEE registers*  
 LPI related registers are not included. It is not consistent with the EEE ability and EEE enable bits.  
**SuggestedRemedy**  
 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 Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE. LPI mode has not been defined yet, however these registers are very general to any PHY supporting EEE, that is part of the objectives.

**Cl ↓** SC ↓ P L # **232**  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type **E** Comment Status **X** EZ

**SuggestedRemedy**

Proposed Response Response Status **W**  
 Empty comment

**Cl ↓** SC ↓ P L # **229**  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type **E** Comment Status **X** EZ

**SuggestedRemedy**

Proposed Response Response Status **W**  
 Empty comment

CI 00 SC 0 P1 L0 # 131  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Incorrect TF name in header, both project number and TF name  
 SuggestedRemedy  
 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 Response Status W  
 PROPOSED ACCEPT.

CI FM SC FM P1 L2 # 133  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Multiple problems: 1) typo "IEE"; 2) different grammar than on published standards ("of" instead of "to"; 3) as is indicates we are likely to be first amendment to IEEE Std 802.3-20xx his does not agree with front matter introduction (nor current timelines).  
 SuggestedRemedy  
 (Amendment to IEEE Std 802.3TM-20xx as amended by [list to be populated during publication process]). Request update of draft templates ("of" instead or "to").  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI FM SC FM P1 L12 # 132  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Title does not agree with the PAR.  
 SuggestedRemedy  
 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 Response Status W  
 PROPOSED ACCEPT.

CI FM SC FM P1 L30 # 134  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D 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.

CI FM SC FM P3 L6 # 135  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Add to Keywords.  
 SuggestedRemedy  
 Add Automotive Ethernet to the list.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI FM SC FM P4 L7 # 136  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D 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.



Cl **FM** SC **FM** P **8** L **4** # **137**

Grow, Robert RMG Consulting, KDPOF

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

The TBD here and above on line 17 are perhaps misleading as this list does not affect technical completeness of the draft, and the list will be determined by the voter list generated after the WG meeting at which WG ballot is approved.

*SuggestedRemedy*

Delete TBD at line 4, consider replacing the TBD at line 17 with an Editor's Note that the list should be added after initial WG ballot.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **FM** SC **FM** P **8** L **8** # **138**

Grow, Robert RMG Consulting, KDPOF

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

Old WG officer list

*SuggestedRemedy*

Delete line for Pete and ", Phase 2 from Jon's line.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **FM** SC **FM** P **9** L **5** # **139**

Grow, Robert RMG Consulting, KDPOF

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

Delete TBD here, line 28 and line 34.

*SuggestedRemedy*

Lists and dates will be completed by publication editor during publication preparation.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **FM** SC **FM** P **11** L **40** # **140**

Grow, Robert RMG Consulting, KDPOF

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

Sponsor ballot is now an obsolete term.

*SuggestedRemedy*

Change "Sponsor ballot" to "SA ballot".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **FM** SC **FM** P **11** L **43** # **141**

Grow, Robert RMG Consulting, KDPOF

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

It is customary to not include complete year on any unapproved/unpublished standard.

*SuggestedRemedy*

Change "2022" to "20XX" here as well as page 12 and lines 1 and 7.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **FM** SC **FM** P **11** L **45** # **142**

Grow, Robert RMG Consulting, KDPOF

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

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.

*SuggestedRemedy*

Either leave number blank on all amendments listed until they are assigned by WG leadership. Or only include the descriptions.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **FM** SC **FM** P **11** L **45** # **143**

Grow, Robert RMG Consulting, KDPOF

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

The current P802.3ck draft has a self description.

*SuggestedRemedy*

P802.3ck/D1.4 description is: This amendment includes changes to IEEE Std 802.3-2018 and adds Clause 161 through Clause 163, Annex 120F, Annex 120G, and Annex 162A through Annex 162D. This amendment includes Physical Layer specifications and management parameters for 100 Gb/s, 200 Gb/s, and 400 Gb/s electrical interfaces based on 100 Gb/s signaling.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **FM** SC **FM** P **12** L **3** # **145**

Grow, Robert RMG Consulting, KDPOF

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

The current draft does not have a self description.

*SuggestedRemedy*

Instead of a generic description indicate "P802.3cx/0.4 does not include a self description."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **FM** SC **FM** P **12** L **3** # **144**

Grow, Robert RMG Consulting, KDPOF

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

The current P802.3cx draft has a self description.

*SuggestedRemedy*

The P802.3cx/D0.99 description is: This amendment includes changes to IEEE Std 802.3-2018 and adds Clause 155 and Clause 156. This amendment adds 400 Gb/s Physical Layer specifications and management parameters for operation over DWDM systems with reaches of at least 80 km.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **FM** SC **FM** P **12** L **9** # **146**

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** Comment Status **D** EZ

We need to add our own self description (projects that follow us can then include in their drafts).

*SuggestedRemedy*

This amendment includes changes to IEEE Std 802.3-20XX and adds Clause XXX (currently using 300). This amendment adds 2.5 Gb/s, 5 Gb/s, 10 Gb/s, 25 Gb/s and 50 Gb/s Physical Layer specifications and management parameters for optical automotive Ethernet.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **FM** SC **FM** P **13** L **26** # **147**

Grow, Robert RMG Consulting, KDPOF

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

The line wrap is messed up. I don't remember if this is a manual fix after table of contents generation or can be fixed to work automatically.

*SuggestedRemedy*

Fix tabs to be about 1/4 inch per level, that might eliminate the wrap problem, investigate if there is an automatic way to fix line wrap..

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **FM** SC **FM** P **13** L **57** # **148**

Grow, Robert RMG Consulting, KDPOF

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

Something messed up the footer in this file of the book.

*SuggestedRemedy*

Fix FrameMaker TOC file footer centering.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 1 SC 1.4 P 19 L 21 # 149  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ

The word "publication" is generally reserved for IEEE publication after approval. We will need to update numbering for our balloting. The latest timelines have us able to do this for WG ballot. A revision draft should be available 2 months prior to our projected WG ballot, but it probably won't include multiple amendments to 802.3-2018 in the initial revision draft (waiting for SASB approval before merging amendments into the revision).

**SuggestedRemedy**

Change note to: "Subclause, Table and Figure numbers will change in the next revision of IEEE Std 802.3. It is expected that P802.3cz numbering will be updated for WG ballot based on a future 802.3 revision draft." Similarly update other Editor's Notes that talk about draft publication.

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 30 SC 30.5.1.1.2 P 22 L 33 # 159  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 "temporal"?

**SuggestedRemedy**

"Optical fiber" in the aMAUType definitions should be updated to reflect TBD specifications.

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 44 SC 44.1.1 P 24 L 11 # 160  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ

Tracking base text is difficult, and some reviewers will be checking for accuracy of base text. I've found it helpful to note the source of base text on change instructions (and sometimes on insert instructions). Because we will be citing revision drafts when available, we might even do this for now identifying IEEE Std 802.3-2018 base text or, for example "IEEE Std 802.3ch-2020" or "as last modified by P802.3xx/Dy.z" as we will want to indicate the source revision draft e.g., "P802.3/Dy.z" when we have one.

**SuggestedRemedy**

For example, this one would read: Change the first paragraph of 44.1.1 (IEEE Std 802.3ch-2020) as follows:

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 44 SC 44.1.4.4 P 26 L 21 # 7  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ

Editor note. PMA is already defined.

**SuggestedRemedy**

Replace with "Depending on the PMD definition ...."

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 44 SC 44.1.4.4 P 26 L 21 # 164  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 "conveniently"?

**SuggestedRemedy**

"This table will need to be modified to be consistent with PMA/PMD specifications TBD."

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. Combine with comment #7 and delete PMA

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.

**SuggestedRemedy**

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

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC Table 45-3 P 28 L 20 # 165  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type T Comment Status D EZ  
 Register 1.26 is defined by IEEE Std 802.3cn.

**SuggestedRemedy**

Remove the reserved row.

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC Table 45-3 P 28 L 32 # 166

Grow, Robert RMG Consulting, KDPOF

Comment Type T Comment Status D EZ

Register 1.1000 through 1.1002 are used by IEEE Std 802.3ca.

*SuggestedRemedy*

I suggest going to the 1.901-1.999 reserved block (1.900 is BASE-H, use IEEE Std 802.3ca for base text where reserved range is changed). I didn't find any other approved or active amendment projects in this register range and would recommend 1.901 for "MultiGBASE-AU PMA/PMD control". If the register changes, Footnote c (should be footnote d) to Table 45-7 also needs to be updated to point at the selected register. Also will need to change the subclause title at p. 29, l. 47, and change the register number in the Bit(s) column at p. 30, l. 5 and l. 7.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.1.6 P 28 L 43 # 199

Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status D EZ

discrepancy of the bit between description and table45-7

*SuggestedRemedy*

Chose correct one either of 1.7.6:0 or 1.7.5:0

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Change the Bit(s) column content from 1.7.5:0 to 1.7.6:0.

Cl 45 SC 45.2.1.21a P 28 L 50 # 200

Hayashi, Takehiro HAT Lab., Inc.

Comment Type E Comment Status D EZ

table 45-103a is wrong reference.

*SuggestedRemedy*

45-24a

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC Table 45-7 P 29 L 7 # 167

Grow, Robert RMG Consulting, KDPOF

Comment Type T Comment Status D EZ

The reserved rows probably won't look like this in the revision. Most of the reserved values are defined by other amendments in progress. More importantly, the value (1011110) used here for AU types is also defined by P802.3ck/D1.4.

*SuggestedRemedy*

It is uncertain at this time if P802.3ck will be included in the revision, but .3ck started to use the value first, so we should change our value. There are a few reserved values still available below the values specified by P802.3cp (e.g., 100011x found in IEEE Std 802.3cd so will be in the revision draft), or we can use some of the reserved values above those used by P802.3cp (i.e., 1111001 or numerically greater).

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC Table 45-7 P 29 L 12 # 168

Grow, Robert RMG Consulting, KDPOF

Comment Type T Comment Status D EZ

In IEEE Std 802.3-2018, there is a footnote c for 1.900 BASE-H.

*SuggestedRemedy*

Footnote should be d (also on line 9).

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.3 P 31 L 8 # 169

Grow, Robert RMG Consulting, KDPOF

Comment Type E Comment Status D EZ

The instruction does not agree with the table that only adds rows through 1.525, not 1.541. Also, we are trying to use "through" instead of "to" to remove the ambiguity of the second value being included in a range.

*SuggestedRemedy*

"new rows for registers 1.523 through 1.526

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC Table 45-176 P 31 L 30 # 170  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 With the combined change and insert instruction, I think we should underline the inserted rows.  
 SuggestedRemedy  
 Underline the rows for 1.523 through 1.526  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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  
 bracket ( ) 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 45.2.3.56a.3 P 35 L 16 # 223  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D EZ  
 add the table reference of "bit 3.524.1"  
 SuggestedRemedy  
 (bit 3.524.1 = 0, see table 45-226b)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.2.3.56a.4 P 35 L 25 # 224  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D EZ  
 add the table reference of "bit 3.524.0"  
 SuggestedRemedy  
 (bit 3.524.0 = 0, see table 45-226b)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.2.3.5b P 36 L 12 # 225  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D EZ  
 Comparing to other names in the table, "local" may be added.  
 SuggestedRemedy  
 BASE-H OAM ability ® local BASE-H OAM ability  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.2.3.5b P 36 L 14 # 226  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D EZ  
 Comparing to other names in the table, "local" may be added.  
 SuggestedRemedy  
 EEE ability ® local EEE ability  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.2.3.5b P 36 L 17 # 227  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D EZ  
 "LH = Latching high" is not used in the table.  
 SuggestedRemedy  
 delete it from the foot note.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.5.3.7 P 40 L 32 # 243  
 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.

Cl 45 SC 45.5.3.7 P 40 L 32 # 244  
 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.

Cl 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.

Cl 45 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.

Cl 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.

Cl 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.

Cl 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.

Cl 45 SC 45.5.3.7 P 41 L 38 # 249  
 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.

Cl 45 SC 45.5.3.7 P 41 L 41 # 250  
 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.

Cl 105 SC Table 105-2 P 48 L 20 # 173  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 "25 BASE-AU" is missing the "G".  
 SuggestedRemedy  
 25GBASE-AU ...  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.1.4 P 64 L 23 # 297  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type T Comment Status D EZ  
 2.5GBASE-AU "M" for 2.5GBASE-T1 is wrong  
 SuggestedRemedy  
 delete "M"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.1.4 P 64 L 23 # 29  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 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  
 SuggestedRemedy  
 Remove M of rows 2.5GBASE-T1 and 5GBASE-T1, the the columns 2.5GBASE-AU and 5GBASE-AU respectively.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.1.4 P 64 L 29 # 298  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type T Comment Status D EZ  
 5GBASE-AU "M" for 5GBASE-T1 is wrong  
 SuggestedRemedy  
 delete "M"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 131 SC 131.2.2 P 67 L 45 # 174  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 50GBASE-H PHYs?  
 SuggestedRemedy  
 50GBASE-AU  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 131 SC 131.2.3 P 67 L 50 # 36  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 This subclauses 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.  
 SuggestedRemedy  
 Remove it.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300 P 71 L 1 # 125  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 General: figures should be placed close to the clauses where they are referred to facilitate reading the draft.  
 SuggestedRemedy  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 00 SC 0 P 71 L 5 # 175  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Should add to the Editor's note something about 50GBASE-AU status.  
 SuggestedRemedy  
 50GBASE-AU is included in specifications, sometimes with assumptions about what will be adopted. All 50GBASE-AU specifications are TBD until baseline proposals are adopted by the TF.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300 P 71 L 9 # 37  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 PMD is a sublayer. They are several types (plural)  
 SuggestedRemedy  
 Amend title as: Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer, and Physical Medium Dependent (PMD) sublayer, types 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, and 50GBASE-AU  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1 P 71 L 32 # 177  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Grammar  
 SuggestedRemedy  
 Replace "and" with "or". Also on line 37.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.1 P 71 L 42 # 350  
 Swanson, Steve Corning Inc  
 Comment Type E Comment Status D EZ  
 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 300.1.1 P71 L42 # 178  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Oops, five PHY types are listed.  
 SuggestedRemedy  
 Change "four" to "five".  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.1 P71 L43 # 41  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 They are five PHYs  
 SuggestedRemedy  
 Replace four with five.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.2 P72 L18 # 179  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Grammar  
 SuggestedRemedy  
 "The 50GBASE-AU PHY type."  
 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 EZ  
 SuggestedRemedy  
 Delete "...concrete..."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P73 L48 # 43  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 PMD is connected to PCS. Terms PMD and PCS exchanged in the PHY of the right side.  
 Also in line 49  
 SuggestedRemedy  
 Per comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P73 L48 # 305  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type T Comment Status D EZ  
 position of PCS TX/RX and PMD TX/RX in the right side is wrong.  
 SuggestedRemedy  
 PMD TX/RX shall be left side of PMA and PCS TX/RX shall be right side of PMA.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P74 L8 # 182  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Name errors, Clause 46 and Clause 106 do not use underscore.  
 SuggestedRemedy  
 Change TX\_D and TS\_C to TXD and TXC if the current text survives comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P74 L15 # 183  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Delete "also included in the Transmit Block", it is redundant with the next sentence.  
 SuggestedRemedy  
 Per comment, unless text is replaced per other comments.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 74 L 33 # 186  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Grammar  
 SuggestedRemedy  
 Start sentence with "A".  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 74 L 38 # 187  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Bad hot link references.  
 SuggestedRemedy  
 PMA is 300.3, PMD is 300.6.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 74 L 38 # 148  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 "PMA functionality is described ...". 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.  
 SuggestedRemedy  
 To check all the text to replace describing wording with specifying wording, where appropriate.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 14 # 188  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Typo  
 SuggestedRemedy  
 XMII -> XGMII (unless we decide to use xMII instead of a list).  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 15 # 190  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 Fewer words often is better.  
 SuggestedRemedy  
 Delete "by".  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 23 # 193  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 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)."  
 SuggestedRemedy  
 "The 80 PDBs, PHD block, and 220 parity bits form an RS-FEC Codeword (CW)."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 25 # 194  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 This paragraph mixes two topics.  
 SuggestedRemedy  
 Include the first sentence in the previous paragraph.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 32 # 196  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 We (myself included) have a tendency to create too many proper names (capitalization). Try to avoid this tendency. Is is really necessary to capitalize PCS Transmit when it is typically followed by either "function" or "process" (without capitalization).  
 SuggestedRemedy  
 Transmit -> transmit, Receive -> receive in next sentence. A search will show that capitalization is not consistent throughout the draft.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC Figure 300-4 P 77 L 11 # 197  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 The labling 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.  
 SuggestedRemedy  
 Change 65B to 65-bit (like is done for 20-bit).  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.1 P 79 L 42 # 68  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 According to the Figure 300-7 PCS transmit function, this clause should be "Payload data path". There is lack of consistency.  
 SuggestedRemedy  
 Do it consistent, changing block diagram, text or both.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. The text will be changed to match the Figure 300-7.

Cl 300 SC 300.2.3.3.1 P 81 L 24 # 309  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D EZ  
 add the reference of "PHD reception monitor state diagram"  
 SuggestedRemedy  
 add (see 3.4.5)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.3.1 P 81 L 30 # 310  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D EZ  
 use the ssame the reference  
 SuggestedRemedy  
 change 300.3.5 to 300.3.5.3  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.3.2 P 83 L 7 # 72  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 CRC code is not "extra", it is the only error detection capability after TRC decoding.  
 SuggestedRemedy  
 Remove "extra"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.3.3 P 83 L 32 # 74  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 No extra. It is after TRC decoding.  
 SuggestedRemedy  
 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 Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.3.4 P 84 L 3 # 75  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 TRC is not systematic code.  
 SuggestedRemedy  
 Remove "systematically"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.6 P 90 L 1 # 81  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 Multiplexer?  
 SuggestedRemedy  
 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 300.2.4 P 90 L 42 # 87  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 PCS receive process monitors ....  
 SuggestedRemedy  
 Replace monitors with decodes.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.4.1 P 93 L 28 # 100  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 (see 300.2.3.4.10) no valid reference.  
 SuggestedRemedy  
 Replace by a reference to 64B/65B receive state diagram.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.4.1 P 93 L 45 # 102  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 (see 300.2.3.4.10) no valid reference.  
 SuggestedRemedy  
 Replace by a reference to 64B/65B transmit state diagram.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.4.2 P 94 L 40 # 105  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 so that the remote PHY can perform clock recovery and train its equalizers (tx\_enable <= TRUE).  
 SuggestedRemedy  
 "so that the remote PHY can perform Transmit Block synchronization, clock recovery and train its equalizers (tx\_enable <= TRUE)"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.4.3 P 96 L 5 # 109  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 "Blind tracking algorithms for timing recovery can be enabled after the equalizer training has finished. <sup>1111</sup> <sub>SEPSEP</sub> 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 XGMII, which is not a priori known. However the implementor may decided not to adapt the equalizers once link\_status = OK.  
 SuggestedRemedy  
 Remove. It is implementation decision the algorithms to use.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.4.3 P 96 L 13 # 110  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 whether this reception is reliable  
 SuggestedRemedy  
 whether the 65B blocks reception is reliable.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.4.5 P 97 L 35 # 113  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 "on entry" has no meaning.  
 SuggestedRemedy  
 Remove it.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.4.5 P 98 L 3 # 112  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 "or disable the reception of headers" seems to be related with en\_rcvrhdr of Figure 300-17. en\_rcvrhdr variable is not defined and it is not assigned by any other state diagram or register. It is not consistent with baseline.  
 SuggestedRemedy  
 Remove text and variable in the state diagram.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.6.1.1 P 107 L 3 # 122  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 "analog signal amplitude". In reality symbols with value {-1} and {+1}.  
 SuggestedRemedy  
 Correct per comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300,12 SC 300,12 P 108 L 37 # 123  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status D EZ  
 "that there be" —> meaning ?  
 SuggestedRemedy  
 Remove.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300,12 SC 300,12 P 109 L 3 # 124  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D EZ  
 Table 300-5. The delay is the same for all the data-rates: 11264 bit times, 22 pause quanta. Delay in ns is result of multiplying the number of bit-time by the bit transmission period (i.e. bit time).  
 SuggestedRemedy  
 Correct table per comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.13 P 109 L 13 # 198  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D EZ  
 PICS should start on a new page.  
 SuggestedRemedy  
 Insert page break before PICS.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.4.9 P 87 L 24 # 77  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D FEC decoder error  
 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.  
 SuggestedRemedy  
 Add shall statement accordingly.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 The addition of the shall statement shall be done in the new subclause for RS-FEC decoder. See #91

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.  
 SuggestedRemedy  
 Add sub-clause specifying the points needed for interoperability, e.g. error detection signaling. E.g. "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."  
 Proposed Response 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."

Cl 300 SC 300.2.4.4 P 91 L 18 # 94  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D FEC decoder error  
 The PCS Receive function shall check that the RS-FEC function defined in 300.2.3.5 decoded correctly the received CW. If the check fails, the RS-FEC CW is invalid. This text should in a clause devoted to RS-FEC decoding.  
 SuggestedRemedy  
 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.

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 A new subclause for RS-FEC decoder will be added. The reference will be changed to this new subclause.

Cl 45 SC 45.2.3 P 31 L 33 # 13  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Loopback and test modes  
 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.

SuggestedRemedy  
 Add these registers to the table for consistency.

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 45 SC 45.2.3.56a.1 P 35 L 4 # 221  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D Loopback and test modes  
 "test mode" is not found in table 45-226a

SuggestedRemedy  
 add explanation of "test mode" in table 45-226a

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. Add some placeholder for test modes.

Cl 300 SC 300.1.4 P 75 L 11 # 49  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Loopback and test modes  
 I miss loopback arrow lines in Figure 300-3. Loopback modes are very demanded by OEMs. No adopted yet in the baseline.  
**SuggestedRemedy**  
 Add loopback lines as place holder. Add entry to TODO list to define them.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.2.4 P 64 L 47 # 30  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Miss text  
 PMD is missed! OMEGA is the first project defining optical PHYs for 2.5 and 5 Gb/s rates.  
**SuggestedRemedy**  
 Complete the amendment of clause 125 consistently with clause 105 to include PMD sublayers. Make a review of other missing parts.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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.

Cl 300 SC 300.1.4 P 74 L 8 # 44  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 PAM term is not necessary for description.  
**SuggestedRemedy**  
 Replace: "using a series of fixed length blocks composed by 2-level pulse amplitude modulation (PAM2) symbols" with: "using a series of fixed length binary blocks"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 74 L 21 # 46  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 PAM2 mapping is not necessary for the specification (unnecessary step). NRZ modulation in PMD will map bits = 0 and bits = 1 into optical power P0 and P1.  
**SuggestedRemedy**  
 Remove PAM2 per comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 25 # 55  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 PAM2 mapping step is not necessary for the specification.  
**SuggestedRemedy**  
 "A concatenation of 36 consecutive CW shall be scrambled by the binary additive scrambler specified in 300.2.3.6. The Transmit Block is the sequence of the resulting 195840 bits. One bit shall be transmitted per symbol period."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 34 # 56  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 PAM2 demodulation step is not necessary for the specification.  
 PMA receive function is intended to implement sync, timing recovery, equalization, symbols detection (bits detection in case of NRZ).  
 SuggestedRemedy  
 "The PCS Receive function comprises the binary descrambling, ....." or equivalent.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 77 L 35 # 61  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 Figure 300-4. For consistency and because it is not necessary due an extra step in PMD of NRZ mapping, PAM2 mapping block should be eliminated.  
 SuggestedRemedy  
 Remove block, and adapt terminology.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Substitute in Figure 300-4 PAM2\_0 by bit\_0

Cl 300 SC 300.2.1 P 78 L 1 # 62  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 Figure 300-5. Same comments to Figure 300-4, about PDBs, PAM2 and descrambler.  
 SuggestedRemedy  
 Per comment.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. See #58 #61

Cl 300 SC 300.2.3.7 P 90 L # 83  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 No needed for specification.  
 SuggestedRemedy  
 Remove clause.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.4.2 P 90 L 51 # 89  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 PMA receive function passes detected bits to PCS. No demapping needed.  
 SuggestedRemedy  
 Remove this clause.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.3.1 P 91 L 31 # 96  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Modulation  
 Specify nothing.  
 SuggestedRemedy  
 The PMA transmit function maps the Transmit Block bits into {-1, +1} symbols. Bits with value 0 shall be mapped to {-1} and bits with value 1 shall be mapped to {+1}. Symbols shall be transmitted to PMD with a transmit symbol period that shall be  $1000 / (53.125 \times S)$  ps nominal, which depends on the MultiGBASE-AU PHY. See Table 300-1 for the definition of S for each MultiGBASE-AU PHY.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.



Cl 300 SC 300.3.3.1 P 92 L 6 # 98

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Modulation

PAM2 term not needed for specification.

**SuggestedRemedy**

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 Response Status W

PROPOSED ACCEPT.

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.

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.

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.

Cl 300 SC 300.2.1 P 79 L 29 # 65

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Mux

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.

**SuggestedRemedy**

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

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Proposed modification adds clarity to the figure and decreases ambiguity.

Cl 300 SC 300.2.3.2 P 80 L 21 # 66

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Mux

Which block is performing the TX ordering? The multiplexer? the PHD clock ordering? From the architectural point of view, block diagram should be a before transmit process.

**SuggestedRemedy**

Replace "TRC encoder" with "Interleaved TRC encoder". Remove "PHD Block ordering". Replace multiplexer with "TX transmit ordering". Move block diagram before.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

No insertion of "interleaved" concept per #64.

Remove "PHD Block ordering".

Replace multiplexer with "PCS transmit ordering".

Move 300.2.3 before 300.2.1 for clarity. #(Grow Editorial).

Cl 300 SC 300.2.3.3.2 P 83 L 11 # 73

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Mux

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.

*SuggestedRemedy*

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 Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See #66

Cl 300 SC 300.2.3.3.5 P 84 L 11 # 76

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Mux

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

*SuggestedRemedy*

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.

Proposed Response Response Status W

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

Cl 300 SC 300.2.3.4.10 P 87 L 27 # 78

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Mux

This sub-clause should be replace with one providing specifications (shall statements) for the PCS transmit ordering. This sub-clause is mixing payload data path with PHD data path. It should be hierarchically in an upper level.

*SuggestedRemedy*

Per comment.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. See #Mux

Cl 300 SC 300.2.3.5 P 87 L 45 # 79

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Mux

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.

*SuggestedRemedy*

Per comment.

Proposed Response Response Status W

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

Cl 300 SC 300.2.3.5 P 88 L 24 # 80

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Mux

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. 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.

*SuggestedRemedy*

Per comment.

Proposed Response Response Status W

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

Cl 45 SC 45.2.3 P 31 L 17 # 11

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A OAM

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.

*SuggestedRemedy*

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.

Response Response Status C

ACCEPT. Option 1.

Cl 45 SC Table 45-176 P 31 L 17 # 171

Grow, Robert

RMG Consulting, KDPOF

Comment Type T Comment Status R OAM

Though the changes for "1000BASE-H" to "BASE-H" here and following may be appropriate to do, they could be challenged as being out of scope for our PAR.

*SuggestedRemedy*

The TF should explicitly determine if the changes are appropriate for inclusion as part of the adoption of 1000BASE-H OAM for the AU PHY types. Other options to consider include doing the changes via a maintenance request, or during the revision balloting submit the changes.

Response Response Status C

REJECT. See #11 and #17

Cl 45 SC 45.2.3.56a P 34 L 43 # 14

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A OAM

Using BASE-H is confusing.

*SuggestedRemedy*

BASE-U or BASE-H/U per decision by TF.

Response Response Status C

ACCEPT. #See 17

Cl 45 SC 45.2.3.56a.3 P 35 L 13 # 15

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A OAM

Using BASE-H is confusing.

*SuggestedRemedy*

BASE-U or BASE-H/U per decision by TF.

Response Response Status C

ACCEPT. See #17

Cl 45 SC 45.2.3.47b P 36 L 5 # 17

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A OAM

Using BASE-H is confusing. Also in line 12

*SuggestedRemedy*

BASE-U or BASE-H/U per decision by TF.

Response Response Status C

ACCEPT. OAM BASE-U is proposed for consistency.

Cl 45 SC 45.2.3.47b P 37 L 1 # 18

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status A OAM

Using BASE-H is confusing. Also in line 16

*SuggestedRemedy*

BASE-U or BASE-H/U per decision by TF.

Response Response Status C

ACCEPT. #See 17

Cl 115 SC 115 P 51 L 1 # 25  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A OAM  
 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.  
*SuggestedRemedy*  
 Avoid maintenance request for C/115.  
 Response Response Status C  
 ACCEPT.

Cl 115 SC 115.3.4 P 51 L 10 # 128  
 Wienckowski, Natalie General Motors  
 Comment Type E Comment Status R OAM  
 Sub-clause 115.3 has to be included in the draft since sub-clauses to it are included.  
*SuggestedRemedy*  
 Add "115.3 Physical Medium Attachment (PMA) sublayer" before 115.3.4.  
 Response Response Status C  
 REJECT. OAM definition will be included in Clause 300 if comment #11 is approved by TF. Therefore is not applicable.

Cl 115 SC 115.14.3 P 60 L 3 # 129  
 Wienckowski, Natalie General Motors  
 Comment Type E Comment Status R OAM  
 Sub-clause 115.14 has to be included in the draft since sub-clauses to it are included.  
*SuggestedRemedy*  
 Add "115.14 Protocol implementation conformance statement (PICS) proforma for Clause 115, Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer, and Physical Medium Dependent (PMD) sublayer, types 1000BASE-RHA, 1000BASE-RHB, and 1000BASE-RHC33" before 115.15.3.  
 Response Response Status C  
 REJECT. OAM definition will be included in Clause 300 if comment #11 is approved by TF. Therefore is not applicable.

Cl 300,1 SC 300,1 P 71 L 37 # 40  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A OAM  
 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 unnecessary.  
*SuggestedRemedy*  
 Correct the text accordingly.  
 Response Response Status C  
 ACCEPT.

Cl 300 SC 300.1.4 P 74 L 27 # 47  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A OAM  
 OAM optical capability should BASE-U OAM and specified in C/300, although its specification do references C/115 to make easier maintenance and avoiding repeating text unnecessary. Also in line 30  
*SuggestedRemedy*  
 Replace BASE-H with BASE-U. Change text accordingly.  
 Response Response Status C  
 ACCEPT.

Cl 300 SC 300.2.3.3.1 P 81 L 1 # 70  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status A OAM  
 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 unnecessary.  
*SuggestedRemedy*  
 Per comment.  
 Response Response Status C  
 ACCEPT.

Cl 115 SC 115.9 P 52 L 27 # 130

Wienckowski, Natalie

General Motors

Comment Type T Comment Status A OAM - Dependability

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

[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) one desired use 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.

#### Suggested Remedy

See wienckowski\_3cz\_01\_0321.pdf.

Response Response Status C

ACCEPT IN PRINCIPLE.

MultiGBASE-T1 OAM approach is different of PHD + OAM approach of BASE-H and BASE-AU.

The OAM channel specified in C/115.9, which was adopted to be reused in OMEGA baseline, is a channel that only provides a mechanism to reliably exchange messages between station management entity (STA) peers attached to link partners. The information of this channel is transported within the Physical Header Header (PHD). PHD is side information block embedded inside a Transmit Block used to exchange control and monitoring information as well as optional capabilities (e.g. EEE, OAM). PHD is transmitted with additional error correction capability by using a three-repetition code interleaved along several RS-FEC codewords. Additionally it also include a CRC for error detection capability. Three specific state diagrams are used to validate the bidirectional PHD reliable operation, which is necessary before establishing the bidirectional link between the media independent interfaces of both link partners.

Relevant information transported by the PHD concerning to the PHY status (both partners):

PHD.RX.HDRSTATUS: Indicates whether the local PHY is able to receive the PHD from its link partner with reliability. The value of this field

is determined by the local PHD reception monitor state diagram. The local PHY uses this received PHD field to determine the value of the variable `rem_rcvr_hdr_lock`. Only when both link partners send PHD.RX.HDRSTATUS = 1, PHD communication is bidirectional and reliable.

Local PHD reception status,  
remote PHD reception status,  
and PHD local status (bidirectional reliable communication) are reported through MDIO.

All the information transported in the PHD is always valid and it is only transferred to MDIO registers and SDs if CRC is valid.

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<sup>-12</sup>.

Min resolution is 2<sup>-(8-3)</sup> = 0.0312 log2 units, equivalent to 10\*log10(2)\*0.0312 ≈ 0.1 dB

Range is [-2<sup>-(3-1)</sup>, 2<sup>-(3-1)</sup>-2<sup>-5</sup>] = [-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 ≥ 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 PHD 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.

**Cl 1**    **SC 1.4.52a**    **P 19**    **L 26**    # **150**  
 Grow, Robert    RMG Consulting, KDPOF  
**Comment Type** **E**    **Comment Status** **D**    *optical fiber*  
 The PHY type definitions could be improved.  
**SuggestedRemedy**  
 Change here, and at iines 32, 38, 44, and 48: "optical fiber tailored for automotive application requirements" to "optical fiber for use in automotive applications".  
**Proposed Response**    **Response Status** **W**  
 PROPOSED ACCEPT.

**Cl 44**    **SC 44.1.2**    **P 24**    **L**    # **151**  
 Grow, Robert    RMG Consulting, KDPOF  
**Comment Type** **E**    **Comment Status** **D**    *optical fiber*  
 "Support operation over optical fiber tailored for automotive applications." We aren't tailoring the optical fiber for automotive applications.  
**SuggestedRemedy**  
 "Support operation over optical fiber in automitive applications." Search for "tailor" to find similar text where it isn't clear what is being tailored (specifications for automotive applications or the optical fiber).  
**Proposed Response**    **Response Status** **W**  
 PROPOSED ACCEPT IN PRINCIPLE. As for comment #150

**Cl 44**    **SC 44.1.2**    **P 24**    **L 23**    # **162**  
 Grow, Robert    RMG Consulting, KDPOF  
**Comment Type** **E**    **Comment Status** **X**    *optical fiber*  
 Change consistent with 1.4 AU PHY type definitions.  
**SuggestedRemedy**  
 Change: "Support operation over optical fiber tailored for automotive applications" to "Support operation over optical fiber in automotive applications".  
**Proposed Response**    **Response Status** **W**  
 PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150

**Cl 44**    **SC 44.1.4.4**    **P 27**    **L 6**    # **8**  
 Pérez-Aranda, Rubén    KDPOF  
**Comment Type** **T**    **Comment Status** **D**    *optical fiber*  
 Consistency  
**SuggestedRemedy**  
 Replace with: "upon 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on multimode optical fiber."  
**Proposed Response**    **Response Status** **W**  
 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 for automotive applications.". See #150

**Cl 105**    **SC 105.1.3**    **P 45**    **L 34**    # **21**  
 Pérez-Aranda, Rubén    KDPOF  
**Comment Type** **E**    **Comment Status** **D**    *optical fiber*  
 Too many details (RS size, GF, ...) for an overview in a generic clause.  
**SuggestedRemedy**  
 25GBASE-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 25 Gb/s Ethernet over a multimode optical fiber tailored for automotive applications. 25GBASE-AU uses 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on optical fiber.  
**Proposed Response**    **Response Status** **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 "25GBASE-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 25 Gb/s Ethernet over a multimode optical fiber for automotive applications. 25GBASE-AU uses 64B/65B coding encapsulated into Reed-Solomon frames that are mapped to NRZ modulation for transmission on optical fiber."

Cl 105 SC 105.1.3 P 45 L 35 # 152

Grow, Robert RMG Consulting, KDPOF

Comment Type E Comment Status D optical fiber

Language could be improved for consistency with requested changes to P802.3cz Definitions. The words "an optical fiber" implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).

*SuggestedRemedy*

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 Response Status W

PROPOSED REJECT. Suggested remedy seems to be unrelated with the comment. See comment #191

Cl 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

Cl 105 SC Table 105-1 P 47 L 27 # 153

Grow, Robert RMG Consulting, KDPOF

Comment Type E Comment Status D optical fiber

Language could be improved for consistency with requested changes to P802.3cz Definitions. The words "an optical fiber" implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).

*SuggestedRemedy*

Change "over an optical fiber tailored for automotive applications (see Clause 300)." to "over optical fiber for use in automotive applications (see Clause 300).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150

Cl 125 SC 125.1.3 P 61 L 21 # 26

Pérez-Aranda, Rubén KDPOF

Comment Type T Comment Status D optical fiber

Too many details (RS size, GF, ...) for an overview in a generic clause.

*SuggestedRemedy*

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 Response Response Status W

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

Cl 125 SC 125.1.3 P 61 L 23 # 154

Grow, Robert RMG Consulting, KDPOF

Comment Type E Comment Status X optical fiber

Language could be improved for consistency with requested changes to P802.3cz Definitions. The words "an optical fiber" implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).

*SuggestedRemedy*

"for transmitting 2.5 Gb/s Ethernet over optical fiber in automotive applications."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150

Cl 125 SC 125.1.3 P 61 L 29 # 155  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status X optical fiber  
 Language could be improved for consistency with requested changes to P802.3cz Definitions. The words "an optical fiber" implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).  
 SuggestedRemedy  
 "for transmitting 5 Gb/s Ethernet over optical fiber in automotive applications."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150

Cl 125 SC 125.1.4 P 63 L # 28  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D optical fiber  
 Lack of consistency with table 105-1.  
 SuggestedRemedy  
 Replace with: "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)."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Replace with: "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)." Definition according to #150

Cl 125 SC 125.1.4 P 63 L 17 # 295  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type T Comment Status D optical fiber  
 "optical fiber" is ambiguous  
 SuggestedRemedy  
 change to "a pair of multimode optical fiber"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 See #150

Cl 125 SC 125.1.4 P 63 L 26 # 296  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type T Comment Status D optical fiber  
 "optical fiber" is ambiguous  
 SuggestedRemedy  
 change to "a pair of multimode optical fiber"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 See #150

Cl 131 SC 131.1.3 P 67 L 7 # 32  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D optical fiber  
 It is multimode fiber  
 SuggestedRemedy  
 Replace "optical fiber" with "multimode optical fiber"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. Use definition in #150:  
 "optical fiber for use in automotive applications"

Cl 131 SC 131.1.3 P 67 L 7 # 156  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status X optical fiber  
 Language could be improved for consistency with requested changes to P802.3cz Definitions. The words "an optical fiber" implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).  
 SuggestedRemedy  
 "for transmitting 50 Gb/s Ethernet over optical fiber in automotive applications."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150



Cl 131 SC 131.1.3 P 67 L 31 # 157  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status X optical fiber  
 Language could be improved for consistency with requested changes to P802.3cz Definitions. The words "an optical fiber" implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).  
*SuggestedRemedy*  
 "50 Gb/s PHY using TBD encoding over optical fiber in automotive applications (see Clause 300)."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150

Cl 131 SC 131.1.3 P 67 L 31 # 34  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D optical fiber  
 For consistency with other comments and their proposed changes.  
*SuggestedRemedy*  
 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"

Cl 131 SC 131.1.3 P 67 L 31 # 299  
 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.  
 See #150

Cl 300 SC 300.1 P 71 L 23 # 158  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status X optical fiber  
 Language could be improved for consistency with requested changes to P802.3cz Definitions. The words "an optical fiber" implies a single fiber, not two fibers. What is tailored is also ambiguous (i.e., PHY or the fiber).  
*SuggestedRemedy*  
 "The 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, and 50GBASE-AU PHYs are specified to support operation in automotive applications."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. See #251 and #150

Cl 300 SC 300.1 P 71 L 26 # 176  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D optical fiber  
 "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.  
*SuggestedRemedy*  
 It might be better to soften the statement: "Connection of PMD to the optical fiber medium is typically with a PMD receptacle and mated plug."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1 P 71 L 28 # 349  
 Swanson, Steve Corning Inc  
 Comment Type T Comment Status D optical fiber  
 Rationale: "to support specific requirements for installation in a vehicle" is adequate; we don't know what the connector requirements will be yet.  
*SuggestedRemedy*  
 Delete ": Kojiri-safe, dust protection, vibration robustness, tensile strength, etc."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 00 SC 0 P 16 L 21 # 315

Abbott, John Corning

Comment Type E Comment Status D PAM

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.

Cl 30 SC 30.3.2.1 P 21 L 20 # 3

Pérez-Aranda, Rubén KDPOF

Comment Type T Comment Status D PAM

For 2.5, 5, 10 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 , 25, 29, 35, 39, 47, 52

*SuggestedRemedy*

Replace PAM with NRZ. Replace PAM-TBD with TBD.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 00 SC 0 P 21 L 20 # 316

Abbott, John Corning

Comment Type E Comment Status D PAM

change PAM2 to NRZ

*SuggestedRemedy*

change PAM2 to NRZ

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 00 SC 0 P 21 L 25 # 317

Abbott, John Corning

Comment Type E Comment Status D PAM

change PAM2 to NRZ

*SuggestedRemedy*

change PAM2 to NRZ

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 00 SC 0 P 21 L 30 # 318

Abbott, John Corning

Comment Type E Comment Status D PAM

change PAM2 to NRZ

*SuggestedRemedy*

change PAM2 to NRZ

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 00 SC 0 P 21 L 47 # 319

Abbott, John Corning

Comment Type E Comment Status D PAM

change PAM2 to NRZ

*SuggestedRemedy*

change PAM2 to NRZ

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 00 SC 0 P 21 L 53 # 320

Abbott, John Corning

Comment Type E Comment Status D PAM

change PAM2 to NRZ

*SuggestedRemedy*

change PAM2 to NRZ

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 30 SC 30.3.2.1 P 22 L 3 # 4 [REDACTED]  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D PAM  
 For 2.5, 5, 10 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  
 SuggestedRemedy  
 Replace PAM with NRZ. Replace PAM-TBD with TBD.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 00 SC 0 P 22 L 4 # 321 [REDACTED]  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 00 SC 0 P 22 L 10 # 322 [REDACTED]  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 00 SC 0 P 27 L 6 # 323 [REDACTED]  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 105 SC 105.1.3 P 45 L 37 # 324 [REDACTED]  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.1.3 P 61 L 25 # 325 [REDACTED]  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.1.3 P 61 L 31 # 326 [REDACTED]  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 125 SC 125.1.4 P 63 L 17 # 327  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 131 SC 131.1.3 P 67 L 8 # 33  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D PAM  
 PAMX can be understood as PAM with X levels will be used. NRZ is other option. No baseline adopted.  
 SuggestedRemedy  
 Because no baseline is aopted, replace PAMX with "TBD modulation".  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 74 L 9 # 328  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ or explain they are the same  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 74 L 21 # 329  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ or explain they are the same  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 26 # 330  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ or explain they are the same  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 28 # 331  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ (TWICE)  
 SuggestedRemedy  
 change PAM2 to NRZ or explain they are the same  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 34 # 332  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ or explain they are the same  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.2 P 77 L 41 # 333  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ in Figure 300-4 (multiple)  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.2. P 78 L 41 # 334  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ in Figure 300-5 (multiple)  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.2 P 80 L 25 # 335  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ in Figure 300-7  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.6 P 90 L 2 # 336  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.7 P 90 L 18 # 337  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.7 P 90 L 19 # 338  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.3.7 P 90 L 30 # 339  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.4.1 P 90 L 48 # 340  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ (twice)  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.4.2 P 90 L 51 # 341  
 Abbott, John Corning  
 Comment Type E Comment Status D PAM  
 change PAM2 to NRZ  
 SuggestedRemedy  
 change PAM2 to NRZ  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

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Cl 300 SC 300.2.4.2 P 90 L 53 # 342  
Abbott, John Corning  
Comment Type E Comment Status D PAM  
change PAM2 to NRZ  
SuggestedRemedy  
change PAM2 to NRZ  
Proposed Response Response Status W  
PROPOSED ACCEPT.

---

Cl 300 SC 300.2.4.2 P 90 L 54 # 343  
Abbott, John Corning  
Comment Type E Comment Status D PAM  
change PAM2 to NRZ  
SuggestedRemedy  
change PAM2 to NRZ  
Proposed Response Response Status W  
PROPOSED ACCEPT.

---

Cl 300 SC 300.3.1 P 91 L 33 # 344  
Abbott, John Corning  
Comment Type E Comment Status D PAM  
change PAM2 to NRZ  
SuggestedRemedy  
change PAM2 to NRZ  
Proposed Response Response Status W  
PROPOSED ACCEPT.

---

Cl 300 SC 300.3.3.1 P 92 L 6 # 345  
Abbott, John Corning  
Comment Type E Comment Status D PAM  
change PAM2 to NRZ  
SuggestedRemedy  
change PAM2 to NRZ  
Proposed Response Response Status W  
PROPOSED ACCEPT.

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Cl 300 SC 300.3.5.2 P 99 L 54 # 346  
Abbott, John Corning  
Comment Type E Comment Status D PAM  
change PAM2 to NRZ  
SuggestedRemedy  
change PAM2 to NRZ  
Proposed Response Response Status W  
PROPOSED ACCEPT.

---

Cl 300 SC 300.3.5.2 P 100 L 2 # 347  
Abbott, John Corning  
Comment Type E Comment Status D PAM  
change PAM2 to NRZ  
SuggestedRemedy  
change PAM2 to NRZ  
Proposed Response Response Status W  
PROPOSED ACCEPT.

---

Cl 300 SC 300.3.5.2 P 100 L 9 # 348  
Abbott, John Corning  
Comment Type E Comment Status D PAM  
change PAM2 to NRZ  
SuggestedRemedy  
change PAM2 to NRZ  
Proposed Response Response Status W  
PROPOSED ACCEPT.

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Cl 300 SC 300.2.1 P 76 L 14 # 189

Grow, Robert

RMG Consulting, KDPOF

Comment Type T Comment Status D Position of shall statements

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 "shall" with reference.

**SuggestedRemedy**

Review that pointed to subclauses have an equivocal shall statement if relevant and remove the shall from these pointer sentences.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.2.3 P 79 L # 67

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Position of shall statements

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.

**SuggestedRemedy**

Per comment.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

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

Cl 300 SC 300.2.4 P 90 L 28 # 86

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Receiver

Incomplete specification. No PHD decoding.

**SuggestedRemedy**

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.

Cl 300 SC 300.2.4 P 91 L 7 # 92

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Receiver

Receive block ordering where RS-FEC decoded message is specified to be split into 65-bits blocks and PHD is missed.

**SuggestedRemedy**

Add subclause.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.2.4 P 91 L 7 # 93

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Receiver

TRC decoding is missed

**SuggestedRemedy**

Add subclause.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.3.3.1 P 92 L 8 # 99

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Receiver

Subclauses for signals received from the PMD is missed.

**SuggestedRemedy**

Add subclause. Similar wording and equations of 115.3.3.2 are valid here.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.1.4 P 74 L 7 # 184

Grow, Robert

RMG Consulting, KDPOF

Comment Type E Comment Status D Re-structure text

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.

#### SuggestedRemedy

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 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 Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Combine with the re-structuring ideas in comments #52 and #66

Cl 300 SC 300.2.1 P 76 L 29 # 195

Grow, Robert

RMG Consulting, KDPOF

Comment Type E Comment Status D Re-structure text

Unnecessary detail for introduction to PCS.

#### SuggestedRemedy

Delete paragraph.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Combine with result of #184

Cl 300 SC 300.2.2 P 76 L 48 # 57

Pérez-Aranda, Rubén

KDPOF

Comment Type E Comment Status D Re-structure text

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?

#### SuggestedRemedy

Move definition to subclauses where they are used.

Proposed Response Response Status W

PROPOSED REJECT.

Cl 300 SC 300.3.6 P 100 L 41 # 84

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D Re-structure text

65-bit block transmission and reception belongs to PCS, no PMA.

#### SuggestedRemedy

Move transmission as a subclause to PCS transmit function. Move reception as a subclause to PCS receiver function.

Proposed Response Response Status W

PROPOSED ACCEPT.



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.

Cl 45 SC 0 P 37 L 5 # 235  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 0 P 37 L 12 # 237  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 0 P 37 L 19 # 239  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.1.134a.1 P 29 L 49 # 201  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 When these bits are set to 0000, the mode of operation is 2.5GBASE-AU.  
 ↓  
 When these bits are set to 0000, the mode of operation shall be 2.5GBASE-AU.  
 (Change the following descriptions same as above.)

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

Cl 45 SC 45.2.3 P 31 L 41 # 202  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 Registers 3.500 through 3.508 are used ...  
 ↓  
 Registers 3.500 through 3.508 shall be used ...  
 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 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  
 Bit 3.500.15 is set to zero by the 1000BASE-H based PHY to indicate that ...  
 ↓  
 Bit 3.500.15 set to zero by the 1000BASE-H based PHY shall indicate that ...  
 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 3 # 208  
 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 45.2.3.50.5 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.

Cl 45 SC 45.2.3.51 P 33 L 22 # 212  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 contains ® 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.

Cl 45 SC 45.2.3.51 P 33 L 23 # 213  
 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 the following 128 bits ...  
 ↓  
 registers 3.510 through 3.517 shall contain the following 128 bits ...  
 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 45.2.3.51.1 P 34 L 3 # 214  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 sets ® shalll 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.

Cl 45 SC 45.2.3.51.1 P 34 L 4 # 215  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 sets ® shalll 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.

Cl 45 SC 45.2.3.51.1 P 34 L 6 # 216  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 does not update ® shalll not update  
 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 45.2.3.51.2 P 34 L 11 # 217  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 if these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 changes ® shall change  
 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 45.2.3.51.3 P 34 L 16 # 219  
 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.

Cl 45 SC 45.2.3.51.3 P 34 L 16 # 218  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 if these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 contains ® 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.

Cl 45 SC 45.2.3.56a P 34 L 25 # 220  
 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.

Cl 45 SC 45.2.3.56a.3 P 35 L 15 # 222  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 controls ® shall control  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.1 P 36 L 22 # 228  
 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. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.6 P 36 L 48 # 230  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 reflects ® shall reflect  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.7 P 37 L 3 # 231  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.7 P 37 L 4 # 234  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.8 P 37 L 11 # 236  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.9 P 37 L 18 # 238  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.10 P 37 L 26 # 233  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentence are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47b.10 P 37 L 28 # 240  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47c.1 P 37 L 47 # 241  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 indicates ® shall indicate  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 45 SC 45.2.3.47d.1 P 38 L 13 # 242  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status X shall statements  
 If these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 report ® shall report  
 Proposed Response Response Status W  
 PROPOSED REJECT. This is a description, not a requirement

Cl 115 SC 115.9.1 P 52 L 53 # 257  
 Hayashi, Takehiro HAT Lab., Inc.  
 Comment Type E Comment Status D shall statements  
 "does" looks ambiguous expression. Also, if these sentences are requirements, "shall" should be used.  
 SuggestedRemedy  
 does @ shall execute  
 Proposed Response Response Status W  
 PROPOSED REJECT. We would need a maintenance request of Clause 115 to do this modification

Cl 300 SC 300.1.2 P 72 L 20 # 180  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D shall statements  
 Grammar, in 802.3, "are" is used to state facts, not in place of a shall to indicate normative requirements.  
 SuggestedRemedy  
 "System operation from the perspective of signals at the MDI and management objects shall be identical..."  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 00 SC 0 P 72 L 14 # 181  
 Grow, Robert RMG Consulting, KDPOF  
 Comment Type E Comment Status D Terminology  
 Perhaps this is the place where a generic term for the three different xMII types we are dealing with could be grouped under a single acronym.  
 SuggestedRemedy  
 The acronym xMII is "generic Media Independent Interface" 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.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. Define xMII in subclause 300.1.2 referring to XGMII, 25GMII, or 50GMII.

Cl 300 SC 300.2.1 P 76 L 15 # 51  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Terminology  
 PDB term has been avoided in the baseline, however it is used here as in C/115. The term PDB is defined in 1.4.388 as physical data block (PDB): The minimum data unit of 65 bits used to encode the GMII data stream. (See IEEE Std 802.3, Clause 115.) The meaning is different of the one used in C/300. PDBs in C/115 are 65 bit length and are encoded from 8 GMII transfers (64 bits as well!). Using PDB in C/300 will create confusion, because both codes are 64B/65B. It is not necessary to use the term PDB for specification.  
 SuggestedRemedy  
 Remove PDB and use other terms (see C/55, C/149, and others, because C/300 uses the same encoding). We may use PCS 65B blocks, 65-bit blocks, etc. Apply to complete C/300.

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. Replace PDB by "65-bit block" as used in other clauses of 802.3

Cl 300 SC 300.2.1 P 76 L 17 # 52  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Terminology  
 "portion of the coded PHD called PHD block". Lack of clarity.  
 SuggestedRemedy

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 Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 76 L 17 # 53  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Terminology  
 PHD term is used with no change of definition.  
 SuggestedRemedy  
 Amend 1.4.389 physical header data (PHD) accordingly.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. Amend in 1.4.389 definition a reference to Clause 300.

Cl 300 SC 300.2.1 P 77 L 35 # 58  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Terminology  
 Figure 300-4. PDB terms to be removed.  
 SuggestedRemedy  
 Per comment  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.1 P 77 L 35 # 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.  
 SuggestedRemedy  
 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 300.3.4.3 P 96 L 19 # 111  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Terminology  
 PCS decoder does not decode PDBs received from link partner  
 SuggestedRemedy  
 "PCS decoder does not decode 65B blocks received from link partner and generate Local Fault"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. "PCS decoder does not decode 65B blocks received from link partner and generate Local Fault ordered sets"

Cl 300 SC 300.2.1 P 78 L 33 # 63  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Transmit Block synchron  
 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?

Transmit block synchronization and timing recovery need to be implemented at PMA receive function level combined with equalization. PMA receive function will provide the detected bits.

## SuggestedRemedy

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

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 300 SC 300.2.4.1 P 90 L 46 # 88  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Transmit Block synchron  
 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).

## SuggestedRemedy

Remove this clause.

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE. See #63

Cl 300 SC 300.3.2 P 91 L 45 # 97  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Transmit Block synch  
 To include transmit block synchronization.

**SuggestedRemedy**

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).<sup>[1]</sup> The PMA receiver should implement channel equalization. The channel equalization technique is up to the implementer.

Proposed Response Response Status W

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."

Cl 300 SC 300.3.4.3 P 95 L 52 # 108  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D Transmit Block synch

"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), ..."

**SuggestedRemedy**

"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 Response Status W

PROPOSED ACCEPT.

Cl 300 SC 300.3.4.1 P 93 L 31 # 101  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D tx\_xmii\_idle  
 FALSE: The 64B/65B decoder does not decode received PDBs from the link partner

**SuggestedRemedy**

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 Response Status W

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."

Cl 300 SC 300.3.4.1 P 93 L 50 # 103  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status D tx\_xmii\_idle

Normal inter-frame is encoded in transmitted PDBs.  
 For compatibility with C/46.3.4, 65B blocks encoding Local Fault ordered set should be transmitted when tx\_xmii\_enable = FALSE. In case of transmission encodes idles during training, the remote RS may receive transitions LF- IDLE - RF - IDLE when link is established, i/o LF - RF - IDLE, because the encoded transmitted 65B during training are not consistent with the ordered sets generated by the 65B decoder in the remote partner.

**SuggestedRemedy**

Replace with "Local Fault ordered sets are encoded in ..."<sup>[1]</sup>Change shift register reset value of binary scrambler (page 89, line 52) to another one optimum for the new training sequence. (I will do a contribution for solving this comment)<sup>[2]</sup>Figure 300-21, page 105, line 5, replace IBLOCK\_T with LBLOCK\_T in TX\_INIT state.<sup>[3]</sup>Revise 300.2.3 for consistency.

Proposed Response Response Status W

PROPOSED ACCEPT.



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Cl 300 SC 300.3.4.1 P 93 L 51 # 104

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D tx\_xmii\_idle

tx\_xmii\_idle variable and the use in PHY TX control state diagram is not compatible with 64B/65B transmit state diagram of Figure 300-21 and C/46.3.4. tx\_xmii\_enable variable controls when the 64B/65B encoder starts to encode the XGMII transfers (transition from TX\_INIT). When tx\_xmii\_enable = TRUE, the encoding starts (with Remote Fault according to C/46). 64B/65B transmit state diagram remains always in TX\_INIT, and idle detection cannot be produced, and tx\_xmii\_enable is always FALSE, so transmitter is locked.

*SuggestedRemedy*

Remove tx\_xmii\_idle state variable. Also from PHY TX control state diagram, figure and description.

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 300 SC 300.3.4.2 P 94 L 44 # 106

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D tx\_xmii\_idle

Instead of this, the 64B/65B PCS encoder generates idle PDBs (see Figure 300-21)

*SuggestedRemedy*

Instead of this, the 64B/65B PCS encoder encodes predefined data to be used for the remote receiver alignment (see Figure 300-21).

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 300 SC 300.3.4.2 P 94 L 46 # 107

Pérez-Aranda, Rubén

KDPOF

Comment Type T Comment Status D tx\_xmii\_idle

Remove "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" Consistent with other comments.

*SuggestedRemedy*

Per comment.

Proposed Response Response Status W

PROPOSED ACCEPT.