Cl **00** SC P L # 353

NoName

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

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **FM** SC **FM** P **1** L **2** # 133

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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").

Response *Response Status* **C**

ACCEPT.

Cl **FM** SC **FM** P **1** L **12** # 132

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **FM** SC **FM** P **1** L **30** # 134

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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,

Response *Response Status* **C**

ACCEPT.

Cl **FM** SC **FM** P **3** L **6** # 135

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Add to Keywords.

SuggestedRemedy

Add Automotive Ethernet to the list.

Response *Response Status* **C**

ACCEPT.

Cl **FM** SC **FM** P **4** L **7** # 136

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.).

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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, consiger replacing the TBD at line 17 with an Editor's Note that the list should be added after initial WG ballot.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Old WG officer list

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Delete TBD here, line 28 and line 34.

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Sponsor ballot is now an obsolete term.

SuggestedRemedy

Change "Sponsor ballot" to "SA ballot".

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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."

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

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

SuggestedRemedy

This amendment includes changes to IEEE Std 802.3-20XX and adds Clause XXX (currentlly 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.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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..

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

Fix FrameMaker TOC file footer centering.

Response *Response Status* **C**

ACCEPT.

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

SuggestedRemedy

Response Response Status **C**
ACCEPT. Empty comment

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

SuggestedRemedy

Response Response Status **C**
ACCEPT IN PRINCIPLE. Empty comment

Cl **45** SC **0** P **37** L **5** # 235
Hayashi, Takehiro HAT Lab., Inc.
Comment Type **E** Comment Status **R** shall statements
If these sentences are requirements, "shall" should be used.

SuggestedRemedy
indicates ® shall indicate

Response Response Status **C**
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 **R** shall statements
If these sentences are requirements, "shall" should be used.

SuggestedRemedy
indicates ® shall indicate

Response Response Status **C**
REJECT. This is a description, not a requirement

Cl **00** SC **0** P **1** L **0** # 131
Grow, Robert RMG Consulting, KDPOF
Comment Type **E** Comment Status **A** 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.

Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **16** L **21** # 315
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ. There seems to an inconsistency 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

Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **21** L **20** # 316
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ

SuggestedRemedy
change PAM2 to NRZ

Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **21** L **25** # 317
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **21** L **30** # 318
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **21** L **47** # 319
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **21** L **53** # 320
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **22** L **4** # 321
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **22** L **10** # 322
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **27** L **6** # 323
Abbott, John Corning
Comment Type **E** Comment Status **A** PAM
change PAM2 to NRZ
SuggestedRemedy
change PAM2 to NRZ
Response Response Status **C**
ACCEPT.

Cl **00** SC **0** P **71** L **5** # 175

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **00** SC **0** P **72** L **14** # 181

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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 refering 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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Define xMII in subclause 300.1.2 refering to XGMII, 25GMII, or 50GMII.

Cl **1** SC **1.4** P **19** L **21** # 149

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **1** SC **1.4.52a** P **19** L **26** # 150

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *optical fiber*

The PHY type definitions could be improved.

SuggestedRemedy

Change here, and at lines 32, 38, 44, and 48: "optical fiber tailored for automotive application requirements" to "optical fiber for use in automotive applications".

Response *Response Status* **C**

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 **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 **30** *SC* **30.3.2.1** *P* **21** *L* **20** # 3

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.3.2.1** *P* **22** *L* **3** # 4

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.5.1.1.2** *P* **22** *L* **33** # 159

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

"temporal"?

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.1** *P* **24** *L* **11** # 160

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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:

Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.1** *P* **24** *L* **14** # 161

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** *Comment Status* **A**

These PHY type lists are frequent in IEEE Std 802.3 but a pain for adding new specifications. We occassionally 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.

Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.2** *P* **24** *L* # 151

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. As for Replace "optical fiber tailored for automotive applications." by "optical fiber for use in automotive applications"

Cl **44** *SC* **44.1.2** *P* **24** *L* **23** # 162

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace "optical fiber tailored for automotive applications." by "optical fiber for use in automotive applications"

Cl **44** *SC* **44.1.3** *P* **25** *L* **44** # 5

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 **44** *SC* **44.1.4.4** *P* **26** *L* **21** # 164

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

"conveniently"?

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Combine with comment #7 and delete PMA

Cl **44** *SC* **44.1.4.4** *P* **26** *L* **21** # 7

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

Editor note. PMA is already defined.

SuggestedRemedy

Replace with “Depending on the PMD definition ….”

Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.4.4** *P* **26** *L* **39** # 6

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

Clause 300 specified PCS, PMA and PMD.

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.4.4** *P* **27** *L* **6** # 8

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.“

Response *Response Status* **C**

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 **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 **45** *SC* **0** *P* **37** *L* **19** # 239

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

REJECT. This is a description, not a requirement

Cl **45** *SC* **45.2.1** *P* **28** *L* **19** # 9

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

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* **45.2.1.6** *P* **28** *L* **43** # 199

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *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

Response *Response Status* **C**

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* **A** *EZ*

table 45-103a is wrong reference.

SuggestedRemedy

45-24a

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.134a.1** *P* **29** *L* **49** # 201

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *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.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. The shall is refered to the proper use of this register, and is not described in Clause 300.
Add a shall statement linking the ability register with the mode of operation. The shall statement shall avoid the selection of a mode of operation that is not set in the ability register.

Cl **45** *SC* **45.2.3** *P* **31** *L* **8** # 169

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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 ambituity of the second value being included in a range.

SuggestedRemedy

"new rows for registers 1.523 through 1.526

Response *Response Status* **C**

ACCEPT.

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.SEP SEPOption 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.SEPSEPOption 1 avoid C/115 modification. It is suggested as preferred.

Response *Response Status* **C**

ACCEPT. Option 1.

Cl **45** *SC* **45.2.3** *P* **31** *L* **29** # 12

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 **45** *SC* **45.2.3** *P* **31** *L* **33** # 13

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Add a ToDo task in the ToDo list to get the specification of BER test mode.

Cl **45** *SC* **45.2.3** *P* **31** *L* **41** # 202

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *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 …

Response *Response Status* **C**

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* **R** *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 …

Response *Response Status* **C**

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

Cl **45** *SC* **45.2.3.5b** *P* **36** *L* **12** # 225

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

Comparing to other names in the table, "local" may be added.

SuggestedRemedy

BASE-H OAM ability ® local BASE-H OAM ability

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.5b** *P* **36** *L* **14** # 226

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

Comparing to other names in the table, "local" may be added.

SuggestedRemedy

EEE ability ® local EEE ability

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.5b** *P* **36** *L* **17** # 227

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete it from the foot note.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.47b** *P* **35** *L* **51** # 16

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

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.
Add a ToDo task in the ToDo list to get the baseline for EEE mode.

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 **45** SC **45.2.3.47b.1** P **36** L **22** # 228

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *shall statements*

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

SuggestedRemedy

reflects ® shall reflect

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

reflects ® shall reflect

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

indicates ® shall indicate

Response *Response Status* **C**

REJECT. This is a description, not a requirement

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* **13** # 242

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *shall statements*

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

SuggestedRemedy

report ® shall report

Response *Response Status* **C**

REJECT. This is a description, not a requirement

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 **45** *SC* **45.2.3.50.1** *P* **32** *L* **34** # 204

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *shall statements*

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

SuggestedRemedy

requests ® shall request

Response *Response Status* **C**

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* **R** *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 …

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

reflects ® shall reflect

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

reflects ® shall reflect

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

is used ® shall be used, is changed ® shall be changed

Response *Response Status* **C**

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

Cl **45** *SC* **45.2.3.50.4** *P* **33** *L* **4** # 209

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

blacket ( ) is not necessary

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.50.5** *P* **33** *L* **9** # 210

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *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 contai the remaining 128 bits of ...

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

store ® shall sore

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

contains ® shall contain

Response *Response Status* **C**

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* **R** *shall statements*

The sentence after "and" may be imcomplete.

SuggestedRemedy

registers 3.510 through 3.517 the following 128 bits ...
↓
registers 3.510 through 3.517 shall contain the following 128 bits ...

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

sets ® shalll set

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

sets ® shalll set

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

does not update ® shalll not update

Response *Response Status* **C**

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* **R** *shall statements*

if these sentence are requirements, "shall" should be used.

SuggestedRemedy

changes ® shall change

Response *Response Status* **C**

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* **R** *shall statements*

if these sentence are requirements, "shall" should be used.

SuggestedRemedy

contains ® shall contain

Response *Response Status* **C**

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* **R** *shall statements*

The sentence after "and" may be imcomplete.

SuggestedRemedy

registers 3.510 through 3.517 ...

↓

registers 3.510 through 3.517 shall contain ...

Response *Response Status* **C**

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* **R** *shall statements*

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

SuggestedRemedy

is chosen ® shall be chosen

Response *Response Status* **C**

REJECT. This is a description, not a requirement.

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.1** *P* **35** *L* **4** # 221

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *Loopback and test modes*

"test mode" is not found in table 45-226a

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Add placeholder for BER test mode. Add a ToDo task in the ToDo list to get the specification of test modes.

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* **45.2.3.56a.3** *P* **35** *L* **15** # 222

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *shall statements*

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

SuggestedRemedy

controls ® shall control

Response *Response Status* **C**

REJECT. This is a description, not a requirement

Cl **45** *SC* **45.2.3.56a.3** *P* **35** *L* **16** # 223

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

add the table reference of "bit 3.524.1"

SuggestedRemedy

(bit 3.524.1 = 0, see table 45-226b)

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.56a.4** *P* **35** *L* **25** # 224

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

add the table reference of "bit 3.524.0"

SuggestedRemedy

(bit 3.524.0 = 0, see table 45-226b)

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **40** *L* **32** # 244

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "a"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **40** *L* **32** # 243

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "a"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **40** *L* **36** # 172

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Value/Comment column does not include strikethrough of "1000'.

SuggestedRemedy

Strike through. Also p. 51, l. 8

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **40** *L* **36** # 245

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

1000BASE-H may typo

SuggestedRemedy

1000BASE-H ® BASE-H

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **41** *L* **19** # 246

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

Table 45-226b is a wrong reference.

SuggestedRemedy

Table 45-226a

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **41** *L* **27** # 247

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "a"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **41** *L* **30** # 248

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "a"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **41** *L* **38** # 249

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "a"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.7** *P* **41** *L* **41** # 250

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "a"

Response *Response Status* **C**

ACCEPT.

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 explicily 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* **Table 45-176** *P* **31** *L* **30** # 170

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **Table 45-3** *P* **28** *L* **20** # 165

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

Register 1.26 is defined by IEEE Std 802.3cn.

SuggestedRemedy

Remove the reserved row.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

The reserved rows probably won't look like this in the revision. Most of the reserved values are defined by other amdments 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).

Response *Response Status* **C**

ACCEPT.

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** *Comment Status* **A** *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).

Response *Response Status* **C**

ACCEPT.

Cl **105** *SC* **105.1.1** *P* **47** *L* **24** # 251

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A** *optical fiber*

The cabling won't be a single fiber structure.

SuggestedRemedy

a optical fiber -> a pair of multimode optical fiber

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace with "25 Gb/s PHY using BASE-U encoding over optical fiber for use in automotive applications (see Clause 166).". See #150

Cl **105** *SC* **105.1.3** *P* **45** *L* **34** # 21

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

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 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* **R** *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 addional clarification might appropriately read: "Each sequence of 80 PDBs is followed by a 20-bit PHD block..."

Response *Response Status* **C**

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

Cl **105** *SC* **105.1.3** *P* **45** *L* **37** # 324

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **105** *SC* **105.1.3** *P* **46** *L* **46** # 22

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 **105** *SC* **105.1.3** *P* **47** *L* **27** # 23

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **R**

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)."

Response *Response Status* **C**

REJECT.
RS-FEC is defined as an acronym refering to Reed-Solomon Forward Error Correction, and it does not means an specific Reed-Solomon FEC coding scheme.

Cl **105** *SC* **105.3.2** *P* **48** *L* **48** # 24

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.”

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace text with: “The 25GBASE-AU PCS is specified in Clause 166.”

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

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace "optical fiber tailored for automotive applications." by "optical fiber for use in automotive applications"

Cl **105** *SC* **Table 105-2** *P* **48** *L* **20** # 173

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

"25 BASE-AU" is missing the "G".

SuggestedRemedy

25GBASE-AU …

Response *Response Status* **C**

ACCEPT.

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* **115.3.4** *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 folloing 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** *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 informaiton.
Per slide 14 of https://www.ieee802.org/3/OMEGA/public/mar_2020/cpardo_OMEGA_01_0320_Objectives.pdf one desired used of Multi Gig Optical Automotive Ethernet is redundant links with one copper and one optical. To do this, the informaiton provided in the BASE-T1 OAM is needed.

SuggestedRemedy

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^-12.
Min resolution is 2^-(8-3) = 0.0312 log2 units, equivalent to 10*log10(2)*0.0312 =~ 0.1 dB
Range is [-2^(3-1), 2^(3-1)-2^-5] = [-4, 3.97] log2 units, equivalent to approx. [-12, 12] dB.
The noise variance at symbol detector can be estimated either by measuring the Modulation Error Ratio (MER) at the decision points or measuring
the ratio of corrected symbols per codeword carried out by the RS-FEC decoder. The value of the threshold and the information used to estimate the
RS-FEC decoder noise variance is implementation dependent.
PHD.RX.LINKSTATUS: Indicates whether the local PHY is able to receive 65-bit blocks with reliability. The value of this field is determined by the PHY quality
monitor state diagram. The local PHY uses this received PHD field to determine the value of the variable rem_rcvr_status.
A receiver shall assign PHD.RX.LINKSTATUS the value 1, only when local link margin >= 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 **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 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* **115.9.1** *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 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* **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 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* **115.9.1** *P* **52** *L* **53** # 257

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R** *shall statements*

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

SuggestedRemedy

does ® shall execute

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 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* **115.9.1** *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 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* **115.9.1** *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, deleat "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 themselvs. 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** # 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* **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* **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 **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 **125** *SC* **125.1.3** *P* **61** *L* **21** # 26

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
"2.5GBASE-AU represents Physical Layer devices using Clause 166 Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer, and Physical Medium Dependent (PMD) sublayer, for transmitting 2.5 Gb/s Ethernet over optical fiber 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."

Cl **125** *SC* **125.1.3** *P* **61** *L* **23** # 154

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace "optical fiber tailored for automotive applications." by "optical fiber for use in automotive applications"

Cl **125** *SC* **125.1.3** *P* **61** *L* **25** # 325

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.1.3** *P* **61** *L* **29** # 155

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace "optical fiber tailored for automotive applications." by "optical fiber for use in automotive applications"

Cl **125** *SC* **125.1.3** *P* **61** *L* **31** # 326

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.1.3** *P* **62** *L* **33** # 27

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 **125** *SC* **125.1.4** *P* **63** *L* # 28

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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).”SEPISEP;Replace with: “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).”

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace with: “5 Gb/s PHY using 64B/65B and Reed-Solomon encoding with NRZ modulation over optical fiber for use in automotive applications (see Clause 166).”
and
“2.5 Gb/s PHY using 64B/65B and Reed-Solomon encoding with NRZ modulation over optical fiber for use in automotive applications (see Clause 166).”
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* **A** *optical fiber*

"optical fiber" is anbiguous

SuggestedRemedy

change to "a pair of multimode optical fiber"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace "optical fiber by "optical fiber for use in automotive applications"

Cl **125** *SC* **125.1.4** *P* **63** *L* **17** # 327

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.1.4** *P* **63** *L* **26** # 296

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A** *optical fiber*

"optical fiber" is anbiguous

SuggestedRemedy

change to "a pair of multimode optical fiber"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Subtitute "optical fiber" by "optical fiber for use in automotive applications"

Cl **125** *SC* **125.1.4** *P* **64** *L* **23** # 297

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "M"

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.1.4** *P* **64** *L* **23** # 29

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.1.4** *P* **64** *L* **29** # 298

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A** *EZ*

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

SuggestedRemedy

delete "M"

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **125.2.4** *P* **64** *L* **47** # 30

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Add a placeholder for the PMD 2.5 and 5 Gb/s sublayers similar to the ones in Clause 105

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 **131** *SC* **131.1.3** *P* **67** *L* **7** # 32

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *optical fiber*

It is multimode fiber

SuggestedRemedy

Replace “optical fiber” with “multimode optical fiber”

Response *Response Status* **C**

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* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace "optical fiber tailored for automotive applications." by "optical fiber for use in automotive applications"

Cl **131** SC **131.1.3** P **67** L **8** # 33

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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”.

Response *Response Status* **C**

ACCEPT.

Cl **131** SC **131.1.3** P **67** L **31** # 299

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A** *optical fiber*

The cabling won't be a single fiber structure.

SuggestedRemedy

a optical fiber -> a pair of multimode optical fiber

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace "a optical fiber" by "optical fiber for use in automotive applications"

Cl **131** SC **131.1.3** P **67** L **31** # 34

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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).”

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace "optical fiber tailored for automotive applications." by “50 Gb/s PHY using TBD encoding with TBD modulation over optical fiber for use in automotive applications (see Clause 166).”

Cl **131** SC **131.1.3** P **67** L **31** # 157

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace "optical fiber tailored for automotive applications." by "optical fiber for use in automotive applications"

Cl **131** SC **131.2.2** P **67** L **45** # 174

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

50GBASE-H PHYs?

SuggestedRemedy

50GBASE-AU

Response *Response Status* **C**

ACCEPT.

Cl **131** SC **131.2.2** P **67** L **46** # 35

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace text with: “The 50GBASE-AU PCS is specified in Clause 166.”

Cl **131** *SC* **131.2.3** *P* **67** *L* **50** # 36

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

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

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

Comment Type **E** *Comment Status* **R**

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".

Response *Response Status* **C**

REJECT.
DTE is already defined in 802.3:2018,Clause 1.5 Abbreviations, page 109

Cl **300** *SC* **300** *P* **71** *L* **1** # 125

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

General: figures should be placed close to the clauses where they are referred to facilitate reading the draft.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300** *P* **71** *L* **9** # 37

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *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

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1** *P* **71** *L* **23** # 158

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. "The BASE-AU PHYs are specified to support operation in automotive applications."

Cl **300** *SC* **300.1** *P* **71** *L* **26** # 176

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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."

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1** *P* **71** *L* **28** # 349

Swanson, Steve Corning Inc

Comment Type **T** *Comment Status* **A** *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.”

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1** *P* **71** *L* **32** # 177

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Grammar

SuggestedRemedy

Replace "and" with "or". Also on line 37.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.1** *P* **71** *L* **42** # 350

Swanson, Steve Corning Inc

Comment Type **E** *Comment Status* **A** *EZ*

Rationale: there are 5 distinct PHY types.

SuggestedRemedy

Replace “…four distinct PHY types…” with “…five distinct PHY types…”

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.1** *P* **71** *L* **42** # 178

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Oops, five PHY types are listed.

SuggestedRemedy

Change "four' to "five".

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.1** *P* **71** *L* **43** # 41

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

They a re five PHYs

SuggestedRemedy

Replace four with five.

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* **300.1.1** *P* **71** *L* **46** # 300

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A**

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

SuggestedRemedy

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

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.2** *P* **72** *L* **18** # 179

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Grammar

SuggestedRemedy

"The 50GBASE-AU PHY type.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.2** *P* **72** *L* **20** # 180

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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…"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. "Operation from the perspective of signals at the MDI and management objects shall be identical…"

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* **73** *L* **34** # 304

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R**

The sentence line 34 - 37 is very confusing.

SuggestedRemedy

Each optical fiber trnasmits 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).

Response *Response Status* **C**

REJECT. The lines 34 - 37 are comparable with the first paragraph of 115.1.5 (802.3-2018): "Each fiber is used for unidirectional transmission with the 1000BASE-RHx port on one end of the link segment transmitting on one fiber and receiving on the second fiber. A cross-over in the cabling connects the local PMD transmitter to the link partner's PMD receiver, and the link partner's PMD transmitter to the local PMD receiver. The PMD TX and PMD RX compose the PMD sublayer"

Cl **300** *SC* **300.1.4** *P* **73** *L* **42** # 351

Swanson, Steve Corning Inc

Comment Type **E** *Comment Status* **A** *EZ*

SuggestedRemedy

Delete "…concrete…"

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **73** *L* **48** # 305

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **73** *L* **48** # 306

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **R**

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

SuggestedRemedy

Response *Response Status* **C**

REJECT.
This is a topology diagram not indicating a particular implementation.

Cl **300** *SC* **300.1.4** *P* **73** *L* **48** # 43

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **7** # 184

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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 personallly 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).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Combine with the re-structuring ideas in comments #52, #189, #54, #191, #192 and #195.
"The BASE-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 the xMII data stream using 64B/65B encoding (see 166.2.3.4). The encoded xMII data stream is also referred to as the payload.

The physical layer control is organized into a block called Physical Header Data (PHD) (see Table 166-2). The PHD is followed by the result of CRC calculation. The resulting block is

encoded using an interleaved repetition code (see 166.2.3.3.4), which generates a sequence called encoded PHD. The encoded PHD is divided into a series of encoded PHD sub-blocks. Each encoded PHD sub-block is placed in the Transmit Block after a group of payload blocks. The resulting information blocks are encoded by a systematic RS-FEC code. A Transmit Block holds an entire number of RS-FEC codewords. A Transmit Block is scrambled with an additive scrambler before transmission. The scrambler uses an LFSR that is initialized to a pre-defined value at the beginning of each Transmit Block.

On the receive path, the BASE-AU PCS performs the additive de-scrambling, decodes received RS-FEC codewords, and separates the payload from the control information. The received payload is 64B/65B decoded to create the xMII receive data stream. A series of received PHD sub-blocks are concatenated and TRC decoded to reconstruct the PHD followed by a CRC (see 166.2.3.3). PHD information reliability is checked by CRC calculation and, if it is correct, then it is fed to state diagrams. PHD information exchange with the link partner provides bi-directional link monitoring, PHY control, capabilities announcement, and BASE-AU OAM message communication. (See Table 166-2)."

Cl **300** *SC* **300.1.4** *P* **74** *L* **8** # 44

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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"

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **8** # 182

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **9** # 308

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **R**

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

SuggestedRemedy

If not, use lower casea.

Response *Response Status* **C**

REJECT. It is a proper name.

Cl **300** *SC* **300.1.4** *P* **74** *L* **9** # 328

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ or explain they are the same

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **13** # 45

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Substitute by "PHD information exchange with the link partner provides bi-directional link monitoring, PHY control, capabilities announcement, and BASE-AU OAM message communication. (See Table 166-2)" as stated in #184

Cl **300** *SC* **300.1.4** *P* **74** *L* **15** # 183

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **21** # 46

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Mux*

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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **21** # 329

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ or explain they are the same

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* **300.1.4** *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 MuitiGBASE-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 motiviation 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 **300** *SC* **300.1.4** *P* **74** *L* **33** # 186

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Grammar

SuggestedRemedy

Start sentence with "A".

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **38** # 48

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **74** *L* **38** # 187

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Bad hot link references.

SuggestedRemedy

PMA is 300.3, PMD is 300.6.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.1.4** *P* **75** *L* # 307

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A**

Make the relations to PHY sublayers more clear.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. XMII/25GMII/50GMII sublayer do not exist. MDC and MDIO do not interface only with PCS, so upper line cannot be included. Replace the T-shape figure by a rectangle named PMA.

Cl **300** *SC* **300.1.4** *P* **75** *L* **11** # 49

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Use 115 similar figure to add the loopback arrows. Add a ToDo task in the ToDo list to get the specification of loopback modes.

Cl **300** *SC* **300.1.4** *P* **75** *L* **32** # 50

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Although there is no PMD baseline adoption, this primitive is customary to be included in all optical PHYs. Add PMD_RXDETECT.indication.

Cl **300** *SC* **300.2.1** *P* **76** *L* **14** # 189

Grow, Robert RMG Consulting, KDPOF

Comment Type **T** *Comment Status* **A** *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 specificatons 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 equilivant shall statement if relevant and remove the shall from these pointer sentences.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
This text wil be changed per comment #184 and #52, but shall statements will be included in the originally pointed subclases

Cl **300** *SC* **300.2.1** *P* **76** *L* **14** # 188

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Typo

SuggestedRemedy

XMII -> XGMII (unless we decide to use xMII instead of a list).

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **15** # 190

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Fewer words often is better.

SuggestedRemedy

Delete "by".

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **15** # 51

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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, becase C/300 uses the same encoding). We may use PCS 65B blocks, 65-bit blocks, etc. Apply to complete C/300.

Response *Response Status* **C**

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** # 53

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Terminology*

PHD term is used with no change of definition.

SuggestedRemedy

Amend 1.4.389 physical header data (PHD) accordingly.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Amend in 1.4.389 definition a reference to Clause 166.

Cl **300** *SC* **300.2.1** *P* **76** *L* **17** # 52

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. The commenter will provide a paragraph describing PHD related terminology.
"The BASE-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 the xMII data stream using 64B/65B encoding (see 166.2.3.4). The encoded xMII data stream is also referred to as the payload.

The physical layer control is organized into a block called Physical Header Data (PHD) (see Table 166-2). The PHD is followed by the result of CRC calculation. The resulting block is encoded using an interleaved repetition code (see 166.2.3.3.4), which generates a sequence called encoded PHD. The encoded PHD is divided into a series of encoded PHD sub-blocks. Each encoded PHD sub-block is placed in the Transmit Block after a group of payload blocks. The resulting information blocks are encoded by a systematic RS-FEC code. A Transmit Block holds an entire number of RS-FEC codewords. A Transmit Block is scrambled with an additive scrambler before transmission. The scrambler uses an LFSR that is initialized to a pre-defined value at the beginning of each Transmit Block.

On the receive path, the BASE-AU PCS performs the additive de-scrambling, decodes received RS-FEC codewords, and separates the payload from the control information. The received payload is 64B/65B decoded to create the xMII receive data stream. A series of received PHD sub-blocks are concatenated and TRC decoded to reconstruct the PHD followed by a CRC (see 166.2.3.3). PHD information reliability is checked by CRC calculation and, if it is correct, then it is fed to state diagrams. PHD information exchange with the link partner provides bi-directional link monitoring, PHY control, capabilities announcement, and BASE-AU OAM message communication. (See Table 166-2)."

Cl **300** *SC* **300.2.1** *P* **76** *L* **17** # 191

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A**

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 addional clarification might appropriately read: "Each sequence of 80 PDBs is followed by a 20-bit PHD block..."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. The commented text will be substituted if #184 response is accepted by TF.
"The BASE-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 the xMII data stream using 64B/65B encoding (see 166.2.3.4). The encoded xMII data stream is also referred to as the payload.

The physical layer control is organized into a block called Physical Header Data (PHD) (see Table 166-2). The PHD is followed by the result of CRC calculation. The resulting block is encoded using an interleaved repetition code (see 166.2.3.3.4), which generates a sequence called encoded PHD. The encoded PHD is divided into a series of encoded PHD sub-blocks. Each encoded PHD sub-block is placed in the Transmit Block after a group of payload blocks. The resulting information blocks are encoded by a systematic RS-FEC code. A Transmit Block holds an entire number of RS-FEC codewords. A Transmit Block is scrambled with an additive scrambler before transmission. The scrambler uses an LFSR that is initialized to a pre-defined value at the beginning of each Transmit Block.

On the receive path, the BASE-AU PCS performs the additive de-scrambling, decodes received RS-FEC codewords, and separates the payload from the control information. The received payload is 64B/65B decoded to create the xMII receive data stream. A series of received PHD sub-blocks are concatenated and TRC decoded to reconstruct the PHD followed by a CRC (see 166.2.3.3). PHD information reliability is checked by CRC calculation and, if it is correct, then it is fed to state diagrams. PHD information exchange with the link partner provides bi-directional link monitoring, PHY control, capabilities announcement, and BASE-AU OAM message communication. (See Table 166-2)."

Cl **300** *SC* **300.2.1** *P* **76** *L* **21** # 192

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A**

"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…"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. The commented text will be substituted if #184 response is accepted by TF.
"The BASE-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 the xMII data stream using 64B/65B encoding (see 166.2.3.4). The encoded xMII data stream is also referred to as the payload.

The physical layer control is organized into a block called Physical Header Data (PHD) (see Table 166-2). The PHD is followed by the result of CRC calculation. The resulting block is encoded using an interleaved repetition code (see 166.2.3.3.4), which generates a sequence called encoded PHD. The encoded PHD is divided into a series of encoded PHD sub-blocks. Each encoded PHD sub-block is placed in the Transmit Block after a group of payload blocks. The resulting information blocks are encoded by a systematic RS-FEC code. A Transmit Block holds an entire number of RS-FEC codewords. A Transmit Block is scrambled with an additive scrambler before transmission. The scrambler uses an LFSR that is initialized to a pre-defined value at the beginning of each Transmit Block.

On the receive path, the BASE-AU PCS performs the additive de-scrambling, decodes received RS-FEC codewords, and separates the payload from the control information. The received payload is 64B/65B decoded to create the xMII receive data stream. A series of received PHD sub-blocks are concatenated and TRC decoded to reconstruct the PHD followed by a CRC (see 166.2.3.3). PHD information reliability is checked by CRC calculation and, if it is correct, then it is fed to state diagrams. PHD information exchange with the link partner provides bi-directional link monitoring, PHY control, capabilities announcement, and BASE-AU OAM message communication. (See Table 166-2)."

Cl **300** *SC* **300.2.1** *P* **76** *L* **21** # 54

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. The commented text will be substituted if #184 response is accepted by TF.
"The BASE-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 the xMII data stream using 64B/65B encoding (see 166.2.3.4). The encoded xMII data stream is also referred to as the payload.

The physical layer control is organized into a block called Physical Header Data (PHD) (see Table 166-2). The PHD is followed by the result of CRC calculation. The resulting block is encoded using an interleaved repetition code (see 166.2.3.3.4), which generates a sequence called encoded PHD. The encoded PHD is divided into a series of encoded PHD sub-blocks. Each encoded PHD sub-block is placed in the Transmit Block after a group of payload blocks. The resulting information blocks are encoded by a systematic RS-FEC code. A Transmit Block holds an entire number of RS-FEC codewords. A Transmit Block is scrambled with an additive scrambler before transmission. The scrambler uses an LFSR that is initialized to a pre-defined value at the beginning of each Transmit Block.

On the receive path, the BASE-AU PCS performs the additive de-scrambling, decodes received RS-FEC codewords, and separates the payload from the control information. The received payload is 64B/65B decoded to create the xMII receive data stream. A series of received PHD sub-blocks are concatenated and TRC decoded to reconstruct the PHD followed by a CRC (see 166.2.3.3). PHD information reliability is checked by CRC calculation and, if it is correct, then it is fed to state diagrams. PHD information exchange with the link partner provides bi-directional link monitoring, PHY control, capabilities announcement, and BASE-AU OAM message communication. (See Table 166-2)."

Cl **300** *SC* **300.2.1** *P* **76** *L* **23** # 193

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

Awkward langage: "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)."

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **25** # 194

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

This paragraph mixes two topics.

SuggestedRemedy

Include the firest sentence in the previous paragraph.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **25** # 55

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.”

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. “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.”

Cl **300** *SC* **300.2.1** *P* **76** *L* **26** # 330

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ or explain they are the same

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **28** # 331

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ (TWICE)

SuggestedRemedy

change PAM2 to NRZ or explain they are the same

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **29** # 195

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *Re-structure text*

Unnecessary detail for introduction to PCS.

SuggestedRemedy

Delete paragraph.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Combine with result of #184:
"The BASE-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 the xMII data stream using 64B/65B encoding (see 166.2.3.4). The encoded xMII data stream is also referred to as the payload.

The physical layer control is organized into a block called Physical Header Data (PHD) (see Table 166-2). The PHD is followed by the result of CRC calculation. The resulting block is encoded using an interleaved repetition code (see 166.2.3.3.4), which generates a sequence called encoded PHD. The encoded PHD is divided into a series of encoded PHD sub-blocks. Each encoded PHD sub-block is placed in the Transmit Block after a group of payload blocks. The resulting information blocks are encoded by a systematic RS-FEC code. A Transmit Block holds an entire number of RS-FEC codewords. A Transmit Block is scrambled with an additive scrambler before transmission. The scrambler uses an LFSR that is initialized to a pre-defined value at the beginning of each Transmit Block.

On the receive path, the BASE-AU PCS performs the additive de-scrambling, decodes received RS-FEC codewords, and separates the payload from the control information. The received payload is 64B/65B decoded to create the xMII receive data stream. A series of received PHD sub-blocks are concatenated and TRC decoded to reconstruct the PHD followed by a CRC (see 166.2.3.3). PHD information reliability is checked by CRC calculation and, if it is correct, then it is fed to state diagrams. PHD information exchange with the link partner provides bi-directional link monitoring, PHY control, capabilities announcement, and BASE-AU OAM message communication. (See Table 166-2)."

Cl **300** *SC* **300.2.1** *P* **76** *L* **32** # 196

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **34** # 332

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ or explain they are the same

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **76** *L* **34** # 56

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Accept the first proposalin the suggested remedy.

Cl **300** *SC* **300.2.1** *P* **77** *L* **35** # 61

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Remove box and substitute in Figure 300-4 PAM2_0 by bit_0

Cl **300** *SC* **300.2.1** *P* **77** *L* **35** # 58

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Terminology*

Figure 300-4. PDB terms to be removed.

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Substitute 65B PDB by 65-bit block.

Cl **300** *SC* **300.2.1** *P* **77** *L* **35** # 59

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *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 chunck 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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **77** *L* **35** # 60

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **78** *L* **1** # 62

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Modulation*

Figure 300-5. Same comments to Figure 300-4, about PDBs, PAM2 and descrambler.

SuggestedRemedy

Per comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace PDB by 65-bit block in line 15, remove PAM2 demapping box and replace the adder and descrambler by a simple descrambler box.

Cl **300** *SC* **300.2.1** *P* **78** *L* **33** # 63

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Transmit Block synch*

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

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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.1** *P* **79** *L* **1** # 64

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **R**

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.

Response *Response Status* **C**

REJECT.
Interleaving is already specified in the transmission ordering.

Cl **300** *SC* **300.2.1** *P* **79** *L* **29** # 65

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Proposed modification adds clarity to the figure and decreases ambiguity.

Cl **300** *SC* **300.2.2** *P* **76** *L* **48** # 57

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.2** *P* **77** *L* **41** # 333

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ in Figure 300-4 (multiple)

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.2.** *P* **78** *L* **41** # 334

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ in Figure 300-5 (multiple)

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3** *P* **79** *L* # 67

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

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

Cl **300** *SC* **300.2.3.1** *P* **79** *L* **42** # 68

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT. The text will be changed to match the Figure 300-7.

Cl **300** *SC* **300.2.3.2** *P* **80** *L* **21** # 66

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
No insertion of "interleaved" concept per #64.
Remove “PHD Block ordering”.
Replace multiplexer with “PCS transmit ordering”.
Move 300.2.3.2 before 300.2.3.1.
Add new subclause for PCS transmit ordering and introduce the concept of start of Transmit Block, which information composes the RS message symbols and how it is ordered.

Cl **300** *SC* **300.2.3.2** *P* **80** *L* **25** # 335

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ in Figure 300-7

SuggestedRemedy

change PAM2 to NRZ

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* **300.2.3.3.1** *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 **300** *SC* **300.2.3.3.1** *P* **81** *L* **24** # 309

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

add the reference of "PHD reception monitor state diagram"

SuggestedRemedy

add (see 3.4.5)

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.3.1** *P* **81** *L* **30** # 310

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A** *EZ*

use the ssame the reference

SuggestedRemedy

change 300.3.5 to 300.3.5.3

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.3.1** *P* **82** *L* **50** # 71

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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."

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.3.2** *P* **83** *L* **7** # 72

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

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

SuggestedRemedy

Remove "extra"

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.3.2** *P* **83** *L* **11** # 73

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.SEP Modify Figure 300-8 accordingly.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See #66.
Add new subclause for PCS transmit ordering and introduce the concept of start of Transmit Block, which information composes the RS message symbols and how it is ordered.

Cl **300** *SC* **300.2.3.3.3** *P* **83** *L* **32** # 74

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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."

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.3.4** *P* **84** *L* **3** # 75

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

TRC is not systematic code.

SuggestedRemedy

Remove "systematically"

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.3.5** *P* **84** *L* **11** # 76

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. See #66. Add new subclause for PCS transmit ordering and introduce the concept of start of Transmit Block, which information composes the RS message symbols and how it is ordered.

Cl **300** *SC* **300.2.3.4.2** *P* **85** *L* **1** # 311

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A**

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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Add short lines in the upper part of the cell.

Cl **300** *SC* **300.2.3.4.9** *P* **87** *L* **24** # 77

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.SEP RS-FEC error detection shall be used to flag /E/ for the affected 65-bit blocks.SEP This will improve the MTTFPA of the system.

SuggestedRemedy

Add shall statement accordingly.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
The addition of the shall statement shall be done in the new subclause for RS-FEC decoder. See #91:
"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 by marking the affected 65-bit blocks with the flag /E/."

Cl **300** *SC* **300.2.3.4.10** *P* **87** *L* **27** # 78

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. See #66. Add new subclause for PCS transmit ordering and introduce the concept of start of Transmit Block, which information composes the RS message symbols and how it is ordered.

Cl **300** *SC* **300.2.3.5** *P* **87** *L* **45** # 79

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See #66. Add new subclause for PCS transmit ordering and introduce the concept of start of Transmit Block, which information composes the RS message symbols and how it is ordered.

Cl **300** *SC* **300.2.3.5** *P* **88** *L* **24** # 80

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. See #66. Add new subclause for PCS transmit ordering and introduce the concept of start of Transmit Block, which information composes the RS message symbols and how it is ordered.

Cl **300** *SC* **300.2.3.6** *P* **90** *L* **1** # 81

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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 …."

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.6** *P* **90** *L* **2** # 336

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.6** *P* **90** *L* **2** # 82

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **R**

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.

Response *Response Status* **C**

REJECT.
Follow other clauses in 802.3 and add informative annexes with examples of input and output bit streams.

Cl **300** *SC* **300.2.3.7** *P* **90** *L* # 83

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Modulation*

No needed for specification.

SuggestedRemedy

Remove clause.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.7** *P* **90** *L* **18** # 337

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.7** *P* **90** *L* **19** # 338

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.3.7** *P* **90** *L* **30** # 339

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.4** *P* **90** *L* **28** # 86

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.”

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.4** *P* **90** *L* **28** # 85

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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.

Response *Response Status* **C**

ACCEPT.

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

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

PCS receive process monitors ….

SuggestedRemedy

Replace monitors with decodes.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.4** *P* **91** *L* **7** # 93

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Receiver*

TRC decoding is missed

SuggestedRemedy

Add subclause.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add a subclause specifying the TRC decoding function.

Cl **300** *SC* **300.2.4** *P* **91** *L* **7** # 92

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add a subclause specifying how the RS-FEC decoded message shall be splitted into 65-bit blocks and PHD. This subclause should be the receiver counterpart of the PCS transmit ordering.

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

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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."

Response *Response Status* **C**

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 by marking the affected 65-bit blocks with the flag /E/."

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

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Transmit Block synch*

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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. See #63

Cl **300** *SC* **300.2.4.1** *P* **90** *L* **48** # 340

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ (twice)

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

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

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Modulation*

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

SuggestedRemedy

Remove this clause.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.4.2** *P* **90** *L* **51** # 341

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.4.2** *P* **90** *L* **53** # 342

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.2.4.2** *P* **90** *L* **54** # 343

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

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

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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

Response *Response Status* **C**

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" by "The resulting sequence of bits is used as input to the RS-FEC decoder"

Cl **300** *SC* **300.2.4.4** *P* **91** *L* **18** # 94

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
A new subclause for RS-FEC decoder will be added. The reference will be changed to this new subclause.
"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 by marking the affected 65-bit blocks with the flag /E/."

Cl **300** *SC* **300.3.1** *P* **91** *L* **31** # 96

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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 × S) ps nominal, which depends on the MultiGBASE-AU PHY. See Table 300–1 for the definition of S for each MultiGBASE-AU PHY.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. "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 × S) ps nominal, which depends on the BASE-AU PHY. See Table 300–1 for the definition of S for each BASE-AU PHY."

Cl **300** *SC* **300.3.1** *P* **91** *L* **33** # 344

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.2** *P* **91** *L* **45** # 97

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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). The PMA receiver should implement channel equalization. The channel equalization technique is up to the implementer.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Remove last unnecessary sentence from the suggested remedy:
"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 166.3.5.1).
The PMA receiver may implement channel equalization."

Cl **300** *SC* **300.3.3.1** *P* **92** *L* **6** # 98

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.3.1** *P* **92** *L* **6** # 345

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.3.1** *P* **92** *L* **8** # 99

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add subclause specifying the signals received from the PMD.
"Signals received from the PMD can be expressed as pulse-amplitude modulated signals that have been
filtered by a non-linear channel and corrupted by noise as follows in Equation (166–X):

y(n)=(Add non-linearity with Volterra)

where the received signal y(n) is sampled by the PMA receive function with the recovered clock, at the
optimum phase and with a frequency equal to the transmit symbol clock.

x(n) is the transmitted signal from the PMA transmit function to the PMD transmit function, N(n) is the
additive noise from PMD receiver due optical signal conversion, and wo_l are the Volterra weights that represents the non-linear response of the communication channel.

The received signal y(n) of Equation (166–X) includes the effect of the end-to-end communication channel composed of all the elements from the PMA transmitter to the PMA receiver, including the conversion to
optical signal carried out by the PMD transmitter, the fiber optic channel, and the conversion from optical signal carried out by the PMD receive function."

Cl **300** *SC* **300.3.4.1** *P* **93** *L* **28** # 100

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

(see 300.2.3.4.10) no valid reference.

SuggestedRemedy

Replace by a reference to 64B/65B receive state diagram.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.1** *P* **93** *L* **31** # 101

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace by:" FALSE: The 64B/65B decoder does not decode received 65-bit blocks from the link partner and Local Fault ordered sets are signaled in xMII."

Cl **300** *SC* **300.3.4.1** *P* **93** *L* **45** # 102

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

(see 300.2.3.4.10) no valid reference.

SuggestedRemedy

Replace by a reference to 64B/65B transmit state diagram.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.1** *P* **93** *L* **50** # 103

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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 stablished, 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 … “SEP 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)SEP Figure 300-21, page 105, line 5, replace IBLOCK_T with LBLOCK_T in TX_INIT state.SEP Revise 300.2.3 for consistency.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.1** *P* **93** *L* **51** # 104

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.2** *P* **94** *L* **40** # 105

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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)”

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.2** *P* **94** *L* **44** # 106

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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).

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.2** *P* **94** *L* **46** # 107

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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”.SEP Consistent with other comments.

SuggestedRemedy

Per comment.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.3** *P* **95** *L* **52** # 108

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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), … ”

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.3** *P* **96** *L* **5** # 109

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

"Blind tracking algorithms for timing recovery can be enabled after the equalizer training has finished."The implementor has the possibility to implement data-aided or blind algorithms for clock recovery and equalizer adaptation during the training phase (i.e. link_status = FAIL). It is decision up to the implementor. When link_status = OK, the clock recovery and equalizer tracking needs to be blind, because transported information will be encoded from 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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.3** *P* **96** *L* **5** # 312

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A**

No definition for "Blind tracking algorithms""

SuggestedRemedy

add definition

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Remove sentence per comment #109

Cl **300** *SC* **300.3.4.3** *P* **96** *L* **13** # 110

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

whether this reception is reliable

SuggestedRemedy

whether the 65B blocks reception is reliable.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.3** *P* **96** *L* **19** # 111

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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”

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. “PCS decoder does not decode 65-bit blocks received from link partner and generate Local Fault ordered sets”

Cl **300** *SC* **300.3.4.3** *P* **96** *L* **23** # 313

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **E** *Comment Status* **A**

"transit" may not a proper term.

SuggestedRemedy

Use "transition"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Substitute "transit" by "transitions"

Cl **300** *SC* **300.3.4.5** *P* **97** *L* **35** # 113

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

“on entry” has no meaning.

SuggestedRemedy

Remove it.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.4.5** *P* **98** *L* **3** # 112

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.5.2** *P* **99** *L* **53** # 114

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Modulation*

"at the PAM2 decoder decision points"

SuggestedRemedy

"at the symbols detector decision points"

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.5.2** *P* **99** *L* **54** # 346

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.5.2** *P* **100** *L* **2** # 347

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.5.2** *P* **100** *L* **2** # 115

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Modulation*

"PAM2 decoder"

SuggestedRemedy

Replace with "symbols detector"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Replace with "symbol detector"

Cl **300** *SC* **300.3.5.2** *P* **100** *L* **9** # 116

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Modulation*

"required for reception of RS-FEC coded PAM2"

SuggestedRemedy

Replace with "required for reception of RS-FEC codewords"

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.5.2** *P* **100** *L* **9** # 348

Abbott, John Corning

Comment Type **E** *Comment Status* **A** *PAM*

change PAM2 to NRZ

SuggestedRemedy

change PAM2 to NRZ

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.5.3** *P* **100** *L* **15** # 117

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *Miss text*

Definition of PHY quality monitor state variables is missed

SuggestedRemedy

Add subclause, similar to C/ 115.3.7.3.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add subclause defining PHY quality monitor state variables.

"166.3.5.3 PHY quality monitor state variables
The following defines all the variables used in the PHY quality monitor state diagram that have not been
previously introduced:
new_link_margin_event
Signal sent by the PHY receiver to indicate a new estimation of detector link margin is available.
This event persists only long enough to cause one state diagram transition.
link_margin
Variable set by the PHY receiver containing the value of the last link margin estimation.
Values: Any value determined per Equation (166–5) with E[n^2_d] and T_LM as defined in 166.3.5.2"

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 **300** *SC* **300.3.5.3** *P* **100** *L* **31** # 314

Hayashi, Takehiro HAT Lab., Inc.

Comment Type **T** *Comment Status* **A**

No explanation of step "PMAMON_SYNCH"

SuggestedRemedy

add explantion of "PMAMON_SYNCH"

Response *Response Status* **C**

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** *P* **100** *L* **41** # 119

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *Re-structure text*

These state diagrams belong to PCS sublayer.

SuggestedRemedy

Move to PCS subclause.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.6** *P* **100** *L* **41** # 84

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.3.6.1** *P* **102** *L* **11** # 120

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A**

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.

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 **300** *SC* **300.6.1.1** *P* **107** *L* **3** # 122

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *EZ*

“analog signal amplitude”. In reality symbols with value {-1} and {+1}.

SuggestedRemedy

Correct per comment.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **300.7** *P* *L* # 352

Swanson, Steve Corning Inc

Comment Type **E** *Comment Status* **R**

Should we flip the order of 300.7 and 300.8?

SuggestedRemedy

Response *Response Status* **C**

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 **300** *SC* **300.13** *P* **109** *L* **13** # 198

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

PICS should start on a new page.

SuggestedRemedy

Insert page break before PICS.

Response *Response Status* **C**

ACCEPT.

Cl **300** *SC* **Figure 300-4** *P* **77** *L* **11** # 197

Grow, Robert RMG Consulting, KDPOF

Comment Type **E** *Comment Status* **A** *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).

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 **300,1** *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* **20** # 127

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

Comment Type **E** *Comment Status* **R**

I recommend the final sentence conjunction word may chose “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".

Response *Response Status* **C**

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 conjuntion word is "or".

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 **300,12** *SC* **300,12** *P* **108** *L* **37** # 123

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A** *EZ*

“that there be” —> meaning ?

SuggestedRemedy

Remove.

Response *Response Status* **C**

ACCEPT.

Cl **300,12** *SC* **300,12** *P* **109** *L* **3** # 124

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **A** *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.

Response *Response Status* **C**

ACCEPT.

Cl **300,3** *SC* **300,3** *P* **91** *L* **26** # 95

Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **A**

"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)"

Response *Response Status* **C**

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)." by "for
PHY control and link monitoring (see 166.3.4) and link quality (see 166.3.5)."