Cl **00** *SC* *P* *L* # 474

Grow, Robert
RMG Consulting

Comment Type **TR** *Comment Status* **X**

Shalls for the PMA should be improved, with corresponding PICS updates.

SuggestedRemedy

114.3.1, p.61, l.29 -- The PHD shall consist of the fields detailed in Table 114–2.

Table 114-2, p.63, l.33, PHD.RX.LINKSTATUS -- The local PHY uses . . .
Table 114-2, p.63, l.43, PHD.RX.HDRSTATUS -- The local PHY uses . . .
Table 114-2, p.64, l.10, PHD.RX.LINKMARGIN -- . . . local PHY uses this . . .

PICS PM0a PHD content 114.3.1 PHD content as detailed in Table 114-2 M
Delete PM3, PM4.

_____

114.3.2.1.1, p.62, l.47 -- Course timing recovery in PMARX_TIMING_COARSE, shall establish symbol synchronization by using the a priori known pilot S1 signal . . .

PICS PM2 Course timing recovery 114.3.2.1.1 Establish symbol synchronization using pilot S1 signal.

_____

PICS PM5 recover -> recovery

_____

114.3.2.1.1, p.65, l.26 -- . . . PHY receiver shall train . . .

PICS PM6 Equalizer training 114.3.2.1.1 After successful fine timing recovery, train equalizers using received S2 pilots M

_____

114.3.2.1.1, p.65, l.29 -- Remove redundant text and move any missing requirement to 114.3.2.1.4:

Once the equalizers have been properly estimated, the PHY receiver processes each PHD from the link partner, and determines if PHD reception is reliable. The state diagrams that monitors the reliability of PHD reception are described in 114.3.2.1.4.

_____

114.3.2.1.2, p.65, l.53 -- Add: Payload data subblock content shall either be normal interframe or encoded GMII transmit data.

p.66, l.5 -- . . . it generates PDB.CTRL . . .

p.66, l.7 -- . . . GMII transmit stream is mapped . . .

p.66, l.9 -- . . . the 64B/65B PCS encoder is disconnected until the bidirectional link is re-established.

PICS PM8 Payload data sub-block content 114.3.2.1.2 Content as specified by PHY TX control state diagram

_____

114.3.2.1.3, p.66, l.16 -- Link status shall be determined as specified by the link monitor state diagram. The state diagram controls the value of the link_status state variable as illustrated in Figure 114–36.

l.22 23 -- The value of the rem_rcvr_status variable is assigned . . .

PICS PM9 Link status 114.3.2.1.3 As determined by the link monitor state diagram M

_____

114.3.2.1.4, p.68, l.6 -- . . . from the PMD, if the local PHY . . .

p.68, l.7 -- . . . NOT_OK), this is indicated . . .

PM9a

The criteria to determine reliable PHD reception are left to the implementer and may be based on the correctness of the CRC-16 as defined in 114.2.3.1. When the PHD is reliably received, correct reception of PHD by the remote PHY shall be as indicated in REMPHD.RX.HDRSTATUS, see 114.3.2.

PICS PM6a PHD reception 114.3.2.1.1 After equilization estimation, receive link partner PHD and determine if reception is reliable M

PM6b Link partner PHD reception 114.3.2.1.1 When PHD is reliably received, link partner PHD reception as indicated in REMPHD.RX.HDRSTATUS

_____
_____
_____
_____

Proposed Response *Response Status* **O**

Cl **00** *SC* *P* *L* # 441

Götzfried, Volker — Avago Technologies Fi

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

Neither links to sub-sections nor PDF search is working

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 470

Grow, Robert — RMG Consulting

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

PICS header is not consistent with P802.3 draft.

SuggestedRemedy

Update headers in Clauses 114 and 115 to be consistent.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 428

Pérez-Aranda, Rubén — KDPOF

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

No Table of Content
Bad generation of metainformation in PDF file which makes very difficult the revision since cross-references do not work, text cannot be copied and search tool of PDF reader does not work properly.

SuggestedRemedy

Generate apropriate PDF file

Proposed Response *Response Status* **O**

Cl **114** *SC* *P* *L* # 472

Grow, Robert — RMG Consulting

Comment Type **TR** *Comment Status* **X**

Shalls are not consistently placed nor properly placed to generate an approprite PICS. For example, shalls are in text for initialization of a register, but there is no shall for operation of that functional block.

SuggestedRemedy

Place at least one shall statement for each functional block in Figure 114-5. (PICS item numbers are to be renumbered to eliminate the insertion letters e.g., PC8a becomes PC#.)

114.2.2.1, p.39, l.37 -- The S1 signal within the sub-block shall be generated as follows. The signal consists of a pseudo-random sequence of length LS1 = 128 2-PAM symbols.

p.40, l.14 -- The shift register, r[0] through 14 r[24], is initialized …

p.40, l.16 – binary),

PICS PC3 Pilot S1 generation 114.2.2.1 Pilot S1 generated as specified M

———————————

114.2.2.1, p.40, l.43 -- The pilot S2 sub-blocks of a Transmit Block shall be generated as follows. The series of S2 pilot sub-blocks in a Transmit Block contain chunks from a pseudo-random sequence of 1664 256-PAM symbols.

p.41, l.15 -- The generator polynomial is 1+x22+x25 and the shift register is initialized . . .

PICS PC4 Pilot S2 generation 114.2.2.1 Pilot S1 generated as specified M

———————————

114.2.3.1, p 41, l.48 -- The 704 PHD bits from “Header Builder” are appended with 16 Cyclic Redundancy Check bits (CRC-16) for extra error detection capability after BCH decoding, as shown in Figure 114–10. The check sum shall be computed from the PHD bits as follows. CRC-16 generation uses a Linear Feedback Shift Register (LFSR). The generator polynomial of the LFSR is 1+x2+x5+x6+x8+x10+x11+x12+x13+x16. The CRC-16 register elements (S0 through S15) are initialized . . .

PICS PC5 CRC-16 generation 114.2.3.1 Check sum generated from PHD bits as specified M

———————————

114.2.3.2, p.42, l.20 – The 720 bits from the CRC-16 encoder shall be scrambled prior to transmission. The binary scrambler applies a pseudo-random binary sequence (PRBS) by modulo-2 addition as shown in Figure 114–11. The PRBS is generated by a LFSR whose generator polynomial is 1+x22+x25. The shift register is initialized . . .

PICS PC6 Physical Header scrambling 114.2.3.2 CRC-16 output scrambled as specified M

114.2.3.3, p.42, l.40 –- The BCH encoder in Figure 114–9 shall systematically encode 720 information bits into 896 code bits.

PICS PC6a Physical header BCH encoder 114.2.3.3 Encode 720 information bits into 896 code bits M

114.2.3.4, p.43, l.11 – The 896 bits from the BCH encoder shall be mapped into 1792 2-PAM symbols.

PICS PC6b Physical header modulation and scaling 114.2.3.4 Physical header modulated and scaled as specified. M

114.2.4.1.2, p.48, l.4 –- The 64B/65B implementation shall be consistent with the following formal definition.

PICS PC6c 64B/65B encoding 114.2.4.1.2 Consistent with formal definition M

114.2.4.2, p.49, l.20 – The 705 600 bits per Transmit Block from 64B/65B encoding shall be scrambled prior to transmission. The binary scrambler applies a pseudo-random binary sequence (PRBS) by modulo-2 addition as shown in Figure 114–18. The PRBS is generated by an LFSR whose generator polynomial is 1+x^22+x^25. The shift register is initialized . . .

PICS PC7 Data payload scrambler 114.2.4.2 Data payload scrambled as specified M

114.2.4.3.1, p.50, l.47 – The information bits to be encoded as an MLCC codeword shall be split by an MLCC demultiplexer into two levels.

PICS PC7a Coded 16-PAM MLCC demultiplexer 114.2.4.3.1 Scrambled data path bits split into two levels as specified M

114.2.4.3.2, p.51, l.31 – The data path BCH encoder in Figure 114-19 shall generate . . . information bits as follows.

114.2.4.3.2, p.52, l.9 – The delay elements . . . are initialized ...

PICS PC8 Data path BCH encoder/shortening 114.2.4.3.2 Information bits encoded and shortened as specified M

114.2.4.3.3, p.52, l.32 – . . . coded bits shall be mapped . . . symbols as follows.

PICS PC8a Gray mapping 114.2.4.3.3 BCH endoded data gray mapped as specified

---

114.2.4.3.4, p.55, l.47 -- . . . mapper shall be further processed . . .

PICS PC8b First lattice transformation 114.2.4.3.4 Gray mapped data processed with specified latice transformation M

114.2.4.3.5, p.57, l.21 -- After performing the first lattice transformations, lattice transformed symbols from the two levels shall be added thus performing the coset partitioning over lattice Z2 and the final labeling.

PICS PC8c Lattices addition 114.2.4.3.5 Level 1 and level 2 symbols are added as specified M

114.2.4.3.6, p.57, l.51 -- 2D symbols from the lattice adder, . . . respectively, shall be further transformed . . .

PICS PC8d Second lattice transformation 114.2.4.3.6 Lattice adder output symbols transformed as specified M

114.2.4.3.7, p.58, l.52 -- Data path symbols shall be processed by the RZ^2 to PAM multiplexer as illustrated in Figure 114–30.

PICS PC8e RZ^2 to PAM mulitplexer 114.2.4.3.7 Data path symbols multiplexed as specified M

114.2.4.4, p.59, l.29 -- The 16-PAM encoded symbols shall be scrambled . . .

114.2.4.4, p.59, l.35 -- . . . the shift register is initialized . . .

PICS PC9 Data payload scrambler 114.2.4.4 16-PAM symbols scrambled as specified M

114.2.4.5, p.60, l.32 -- The 16-PAM symbols from the symbol scrambler shall be precoded and scaled as follows. A Thomlinson-Harashima precoderis shown in . . .

PICS PC9a Data payload THP and scaling 114.2.4.5 Payload data is THP precoded and scaled as specified M

Proposed Response *Response Status* **O**

Cl **114** *SC* *P* **38** *L* **47** # 471
Grow, Robert RMG Consulting

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

Not a good use of the term symbols. Improve readability.

SuggestedRemedy

Figure 114-5. S1 and S2 pilots, header data, and payload data symbols are generated in a different manner, so the four symbol streams are multiplexed...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.1** *P* **35** *L* **32** # 154
Tapia, Pablo KDPOF

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

co-efficients

SuggestedRemedy

coefficients

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.1** *P* **35** *L* **33** # 314
Pérez-Aranda, Rubén KDPOF

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

in d) may be added an important feature of the reliable communication side-chanel: operations, administration and maintenance.

SuggestedRemedy

Add before ,etc:
operations, administration and maintenance

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.1** *P* **35** *L* **33** # 186
Mendo, Carmen KDPOF

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

Typo: "co-efficients".

SuggestedRemedy

Replace with "coefficients".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.2** *P* **35** *L* **40** # 155
Tapia, Pablo KDPOF

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

Choose between "The relationship... is shown" or "The relationships... are shown"

SuggestedRemedy

The relationship ... is shown..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.3** *P* **36** *L* **31** # 473
Grow, Robert RMG Consulting

Comment Type **TR** *Comment Status* **X**

Implementation of the MDIO should be optional, not mandatory for 1000BASE-H.

SuggestedRemedy

Any PHY type using 1000BASE-H shall provide the management capabilities referenced in this clause and defined in Clause 45. An optional implementation of the MDIO Interface shall provide access to the 1000BASE-H management registers.

PICS
delete MGT major capability
PC0a 1000BASE-H management Provide specified management capabilities M
PC0b MDIO interface Use optional Clause45 MDIO for register access O

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.4** *P* **36** *L* # 454

Tajima, Takayuki — Yazaki corporation

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

Figure 114-2
Transmitter is connected to the Transmitter.
On the other hand Receiver is connected to the Receiver.

SuggestedRemedy

Replace the Transmitter and Receiver of the one side.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.4** *P* **36** *L* **38** # 351

Pérez-Aranda, Rubén — KDPOF

Comment Type **ER** *Comment Status* **X**

Description and figure 114-2 refers to transmitter and receiver without indicating that those are fiber optics transmitter and receiver. Because only 1000BASE-H is described (PCS and PMA), it is not clear what is the transmitter and receiver and where they are defined. Moreover, the terms transmitter and receiver are vague terms, because for example, the PCS also includes a transmitter and a receiver.

Figure 114-2: TX connected to TX, RX to RX. Wrong.

SuggestedRemedy

Line 38, after the first full stop:
A cross-over in the cabling connects the local fiber optics (FO) transmitter to the link partner's FO receiver, and the link partner's FO transmitter to the local FO receiver. The fiber optics transmitter and receiver compose the PMD sublayer and are defined in Clause 115.

Correct figure 114-2. I suggest to use FO TX or PMD TX instead of Transmitter, and FO RX or PMD RX for Receiver.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.4** *P* **36** *L* **43** # 259

Mendo, Carmen — KDPOF

Comment Type **TR** *Comment Status* **X**

In Figure 114-2 the connections are TX/TX and RX/RX, without crossover.

SuggestedRemedy

Show crossover TX/RX connections.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.4** *P* **36** *L* **44** # 76

Gilarranz, Alejandra — KDPOF

Comment Type **TR** *Comment Status* **X**

In figure 114-2, Transmitter of the local partner is connected to the transmitter block of the link partner, and the receiver of the local partner is connected to reciever of the link partner.

SuggestedRemedy

Attach transmitter of the local partner to receiver of the link partner and viceversa.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.4** *P* **36** *L* **45** # 128

Tapia, Pablo — KDPOF

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

In figure 114-2 the fibres connect the two transmitters together. Analogously, the two receivers are connected together.

SuggestedRemedy

Connect the transmitter on one side to the receiver on the other and viceversa.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.4** *P* **36** *L* **53** # 156

Tapia, Pablo — KDPOF

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

Consider revising the sentence:
"may contain portions or all of zero, one or more frames"

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.4** *P* **37** *L* **1** # 442

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

The term "data link" could mean higher layers on top of the PHY, what is not true.
Control information could indicate the PHD, however there are other signals like pilots that are not used for control, but for timing recovery, etc.

SuggestedRemedy

Replace with:
Transmit Blocks are periodically transmitted and also include signals and control information, used among other tasks, to keep aligned the transmitter and receiver in clock recovery, channel equalization and link monitoring. These signals and control information are inserted at fixed locations within the Transmit Block interrupting the GMII data stream contained in the block. Encapsulation of the GMII data stream within the Transmit Block also includes forward error correction encoding in fixed length code-words, which are also inserted at fixed locations in the block.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.5** *P* **37** *L* **10** # 260

Mendo, Carmen KDPOF

Comment Type **TR** *Comment Status* **X**

In Figure 114-3, direction of MDC and MDIO lines seems incorrect.

SuggestedRemedy

Redraw MDC as input to PHY.
Redraw MDIO as bidirectional.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.5** *P* **37** *L* **12** # 77

Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**

MDC line is drawn as an output line.
MDIO line is drawn as an input line.

SuggestedRemedy

Draw MDC line as an input line.
Draw MDIO line as a bidirectional line.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.5** *P* **37** *L* **4** # 410

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Figure 114-3 has to be corrected / improved:
* MDC arrow is not correct, it should be an input to PHY
* MDIO should be bidirectional arrow
* Indicate OAM as optional implementation
* Add PMD_SDINH.request service promitive, that has to also be added to clause 115.

SuggestedRemedy

Replace figure with that attached in file: perezaranda_GEPOF_2_0715.pdf

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2** *P* **37** *L* **49** # 31

Gilarranz, Alejandra KDPOF

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

Error in text: "The transmitters performed by the PCS ..."

SuggestedRemedy

Replace text by: "The transmit functions performed by the PCS..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2** *P* **37** *L* **49** # 187

Mendo, Carmen KDPOF

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

Typo: "The transmitters performed by the PCS include ..".

SuggestedRemedy

Should be: "The transmit functions performed by the PCS include ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2** *P* **37** *L* **49** # 411

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

after first full stop: The transmitters ....
is not correct according to the description comming up next.

SuggestedRemedy

replace with:
The PCS transmit function includes several steps. The GMII transmit data stream is encapsulated and encoded into 65-bit length blocks called Physical Data Blocks (PDB) and is scrambled to make the transmit signal independent of GMII data content. After that, the information is encoded and mapped into PAM16 symbols according to a Multi-Level Cosed Code (MLCC) block oriented encoder which generates 988-symbol length codewords. The resulstant PAM16 symbols are Tomlinson-Harashima precoded to pre-compensate the inter-symbol interference produced when transmit symbols traverse the communication channel. Finally, the precoded codewords are inserted into Transmit Blocks, together with side information (pilots and headers) for data link control.

The PCS receive function performs clock recovery for correct time sampling of received symbols and channel equalization. The PAM16 codewords are extracted from the Transmit Block and decoded for error correction and detection. The resultant information is descrambled recovering the original PDB that encapsulate GMII information. Finally, the GMII receive data stream is generated from PDB decoding.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.1** *P* **38** *L* **22** # 11

Gilarranz, Alejandra KDPOF

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

In figure 114-4, Physical header sub-blocks are taged as physical header Sub-Frame sub-blocks. The "Sub-Frame" term implies that there is a bigger entity called Frame containing the PHS, which is not the case. This term is used in more parts of the document.

SuggestedRemedy

Change the name of the Physical Header Sub-Frame by other term (e.g. Physical Header Section)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.1** *P* **38** *L* **37** # 352

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Reference to 115.3.3 should be replaced by some reference to 114.
It is true that 115.3.3 defines how the PCS to PMD signal is transformed in light. However, 115 defines this traslation for RH PMD, which may not be true for other future H type PMDs.

On the other hand, 115 reference is nt really needed to understand zero value.

SuggestedRemedy

Reference to subclause 114.6.1 that defines the signals from PCS to PMD.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2** *P* **39** *L* **31** # 315

Pérez-Aranda, Rubén KDPOF

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

L31: is designed for optimum ...
L31: Pilot S2s are transmitted ...
L32: Pilot S2s are intended ...

SuggestedRemedy

Replace L31: is intended for optimum ...
Replace L31: Pilot S2 is transmitted divided in different sub-blocks ...
Replace L32: Pilot S2 sub-blocks are intended to ...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **39** *L* **37** # 52

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Reference to figure 114-6 is not correct.

SuggestedRemedy

Change reference to figure from 114-6 to 114-4.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **39** *L* **37** # 188

Mendo, Carmen KDPOF

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

The reference to Figure 114-6 may be wrong?

SuggestedRemedy

If referring to the location of the S1 pilot in the Transmit Block should be probably Figure 114-4.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **39** *L* **38** # 316

Pérez-Aranda, Rubén KDPOF

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

2-PAM term or, in general, M-PAM, being M any integer value, is not commonly used in 802.3. It is more common PAM2, PAM5, PAM16, (see C/40, C/55).

SuggestedRemedy

Replace in all the document:
2-PAM with PAM2
256-PAM with PAM256
16-PAM with PAM16
etc.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **39** *L* **41** # 322

Pérez-Aranda, Rubén KDPOF

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

Bad reference to 114.2.4.3.
Also in P41, L2 and P43, L17.

SuggestedRemedy

Replace with: 114.2.4.3.3.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **39** *L* **45** # 78

Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**

In figure 114-6, addition of constant 1 is incorrect.

SuggestedRemedy

Replace addition operation by a subtraction operation of constant 1 to at the output of B2D block.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **40** *L* **16** # 317

Pérez-Aranda, Rubén KDPOF

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

L16: no parenthesis after binary
L21: r[0] through r[24] is assumed ...

SuggestedRemedy

L16: add parenthesis before coma ...
L21: r[0] through r[24] are assumed ...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **40** *L* **16** # 12

Gilarranz, Alejandra KDPOF

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

Missing parenthesis after word "binary".

SuggestedRemedy

Add parenthesis between word "binary" and comma character.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **40** *L* **24** # 129

Tapia, Pablo KDPOF

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

The letter "l" in the C code describing the MLS generator might be confused with number "1".

SuggestedRemedy

Change the name of variable "l". Use "len" for example.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **40** *L* **32** # 151

Tapia, Pablo KDPOF

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

"}" is not aligned with the rest of the code.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **40** *L* **42** # 157

Tapia, Pablo KDPOF

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

To clarify, change:
"An S2 pilot sub-block is transmitted between every other data block, alternating with Physical Header Sub-frame sub-blocks as shown in Figure 114–4."

SuggestedRemedy

To:
"An S2 pilot sub-block is transmitted before every even data sub-block, starting in sub-block 2, as shown in Figure 114–4."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **40** *L* **42** # 318

Pérez-Aranda, Rubén KDPOF

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

... data block, ...

SuggestedRemedy

Replace with:
... data sub-block, ...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **1** # 319

Pérez-Aranda, Rubén KDPOF

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

* MLS acronym was already introduced
* the sequence is binary and shoul de stated

SuggestedRemedy

Replace with:
"A MLC generator is used to generate a binary pseudo-random sequence of 13312 bits length, which ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **12** # 189

Mendo, Carmen KDPOF

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

Confusing notation: the minus sign of "-253" in the list of possible values is at the end of the line, separate from the value.

SuggestedRemedy

Do not separate the sign from the value.
Also happens in subclause 114.2.4.3.6, p.58 l.20 ("rotation by -45 degrees").

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **2** # 297
Ortiz Rojo, David KDPOF

Comment Type **E** *Comment Status* **X**
Missing units in the description.

SuggestedRemedy
Change "13312,..." by "13312 bits,..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **2** # 13
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Reference to definitions of S/P and B2D blocks to subclause 114.2.4.3 can be done to 114.2.4.3.3, to make easier the definintions search process. There are similar referencies of S/P and B2D blocks in other parts of the text.

SuggestedRemedy
Point references to definitions of S/P and B2D blocks to subclause 114.2.4.3.3.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **2** # 158
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
Change:
"a pseudo-random sequence of length 13312,"

SuggestedRemedy
To:
"a pseudo-random sequence of length 13312 bits,"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **4** # 118
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
Confusing multiplier and adder in the right edge of Figure 114-8.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **5** # 320
Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **X**
Figure 114-8, which is the meaning of x and + in the right side of figure?

SuggestedRemedy
Eliminate them

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **54** # 130
Tapia, Pablo KDPOF

Comment Type **ER** *Comment Status* **X**
Text between page 41 line 54 to page 42 line 4 is redundant and shall be rewritten.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **7** # 245
Mendo, Carmen KDPOF

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

Typo in Figure 114-8? What are the multiply / add symbols at the output of the path?

SuggestedRemedy

Remove the multiply / add symbols at the output of the path.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.2** *P* **41** *L* **8** # 53
Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

In figure 114-8, there are two unconnected operators (an adder and a multiplier).

SuggestedRemedy

Remove unconnected (unused) operators from figure 114-8.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.4** *P* **59** *L* **30** # 213
Mendo, Carmen KDPOF

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

Expression: complicated: ".. precoding. Two different parts .. symbol scrambler."

SuggestedRemedy

Suggest to simplify: ".. precoding; the scrambling process consists of the two parts explained below."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3** *P* **41** *L* **25** # 216
Mendo, Carmen KDPOF

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

Expression: "A Physical Header Data (PHD) consists of ..".

SuggestedRemedy

Should better read: "A Physical Header Data block (PHD) consists of ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.1** *P* **41** *L* **1** # 353
Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

* The multiplexer is not disconnected to generate output.
* Repeated sentence from the first full stop.

SuggestedRemedy

* From P41, L54, replace with:
"After the 704 bits have been serially processed, the input of multiplexer is connected to zero (CRCout setting) and the 16 stored values are the CRC-16."

* Eliminate lines 2 to 4 from first full stop of line 2.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.1** *P* **41** *L* **50** # 190
Mendo, Carmen KDPOF

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

Typo: ".. the check sum is computed ..".

SuggestedRemedy

Should better read ".. the checksum is computed ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.1** *P* **42** *L* **2** # 191
Mendo, Carmen KDPOF

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

Typo: CRC computation description is repeated.

SuggestedRemedy

(Almost) identical description repeated:
1) p.40 l.53 to p.41 l.2
2) p.41 l.2 to p.41 l.4
Suggest to keep only version (2) which looks a bit more precise wrt the figure.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.1** *P* **42** *L* **4** # 308
Ortiz Rojo, David KDPOF

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

"CRC-16 is transmitted in order from S15 to S0" is duplicated.

SuggestedRemedy

Remove duplicated sentence.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.2** *P* **42** *L* **21** # 192
Mendo, Carmen KDPOF

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

Typo: ".. is generated by a LFSR ..".

SuggestedRemedy

Change to ".. is generated by an LFSR .." to follow the usual pronunciation.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.2** *P* **42** *L* **24** # 159
Tapia, Pablo KDPOF

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

S0 is referring to shift register LSB. Shift register bits are described as r[x] in the formal code definition in 114.2.2.1. Figure 114-11 does not contain any particular naming for each of the bits of the LFSR.

SuggestedRemedy

Change “value of register element S0” to “value of register element r[0]” and consider modifying figures 114-7 and 114-11 to include the “r[x]” naming.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.2** *P* **42** *L* **24** # 307
Ortiz Rojo, David KDPOF

Comment Type **T** *Comment Status* **X**

Description might be ambiguous. This also applies to section 114.2.4.2, page 49 lines 21-25.

SuggestedRemedy

To avoid ambiguity it should be explicitly mentioned that the first bit of the 'clear bit stream' should be scrambled with the initialized value of r0, in the same way that is explicitly mentioned in the S1 generation description.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.3** *P* **42** *L* **45** # 160
Tapia, Pablo KDPOF

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

“zero bits (bits with value zero)” Even with the clarification in parenthesis, the expression “zero bits” is confusing.
Additionally, I would keep using "information" instead of "data" as in the previous sentence.

Change:
"Shortening is implemented by prefixing zero bits (bits with value zero) to the data bits. In this case 1151 zero bits are prefixed to the 720 data bits."

SuggestedRemedy

To:
“Shortening is implemented by prefixing a sequence of 1151 bits with value zero to the information bits.“

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.3** *P* **42** *L* **51** # 321
Pérez-Aranda, Rubén KDPOF

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

Wrong equation, no parenthesis in g(i)

SuggestedRemedy

Add parenthesis

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.3.3** P **42** L **51** # 456

Tajima, Takayuki — Yazaki corporation

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

equation(114-1)
The equation is not correct; Missing parenthesis.
" gi) "

SuggestedRemedy

Add the parenthesis.
" g(i) "

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.3.3** P **42** L **51** # 161

Tapia, Pablo — KDPOF

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

A parenthesis is missing in equation 114-1.

SuggestedRemedy

g(i)

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.3.3** P **42** L **51** # 193

Mendo, Carmen — KDPOF

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

Typo: missing "(" in formula 114-1.

SuggestedRemedy

Should be: "g(i)" not "gi)".

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.3.3** P **43** L **1** # 412

Pérez-Aranda, Rubén — KDPOF

Comment Type **TR** *Comment Status* **X**

No complete information to accurately define polynomial coefficients definition.

SuggestedRemedy

Replace L1 after last full stop, with:
"The 177 coefficients of G(x) are given by the hexadecimal number:
bla bla
g(0) being the rightmost bit."

Similar for P51, L41:
"The 309 coefficients of G(x) are given by he hexadecimal number:
bla bla
g(0) being the rightmost bit."

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.3.3** P **43** L **13** # 14

Gilarranz, Alejandra — KDPOF

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

Equation 114-1. There is a missing parenthesis.

SuggestedRemedy

Add parenthesis between g and i in equation 114-1.

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.3.3** P **43** L **6** # 194

Mendo, Carmen — KDPOF

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

Clarify the format of G(x) as hex.

SuggestedRemedy

Assuming that the LSB is the rightmost bit in the hex value, but should better be specified.
Same comment for section 114.2.4.3.2, p.51, l.46.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.4** *P* **43** *L* **27** # 162

Tapia, Pablo KDPOF

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

Change:
“The 1-bit free counter is used to control the multiplexer initially reset with value 0. Since the counter is reset for each pair of PAM symbols and PHS contains an even number of symbols, then the counter always starts at 0 for each new PHS modulation.”

SuggestedRemedy

To:
“The 1-bit free counter shall be initialized to 0. Since the counter wraps around at value 1 and the PHS contains an even number of symbols, the counter always starts at 0 for each new PHS modulation.”

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.4** *P* **43** *L* **27** # 298

Ortiz Rojo, David KDPOF

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

The sentence "Since the counter is reset for each pair ... for each new PHS modulation" does not add information to the standard and it would be more clear if this sentence is removed.

SuggestedRemedy

Remove the sentence.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4** *P* **43** *L* **52** # 163

Tapia, Pablo KDPOF

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

Redundant "symbols mapped onto ...symbols" in:

"As shown in Figure 114–13, the 705 600 bits per Transmit Block from 64B/65B encoding are scrambled and encoded by a Multilevel Coset Code that generates symbols mapped onto 16-PAM symbols (see Clause 114.2.4.3).”

SuggestedRemedy

“As shown in Figure 114–13, the 705 600 bits per Transmit Block from 64B/65B encoder are scrambled and afterward encoded and mapped by a Multilevel Coset Code onto 16-PAM symbols (see Clause 114.2.4.3).”

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4** *P* **43** *L* **52** # 195

Mendo, Carmen KDPOF

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

Typo: "The incoming data from the GMII is ..".

SuggestedRemedy

Should be: "The incoming data from the GMII are ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4** *P* **44** *L* **5** # 164

Tapia, Pablo KDPOF

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

Change:
“of the coded 16-PAM”

SuggestedRemedy

To:
“of the coded 16-PAM symbols”

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4** *P* **44** *L* **6** # 323

Pérez-Aranda, Rubén KDPOF

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

L6: typo: postfixd

Figure 114-13: muliiplexer

SuggestedRemedy

L6: replace with postfixed
Figure 114-13: replace with multiplexer.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4** *P* **44** *L* **6** # 165

Tapia, Pablo KDPOF

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

“postfixd”

SuggestedRemedy

“postfixed”

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **44** *L* **36** # 135

Tapia, Pablo KDPOF

Comment Type **T** *Comment Status* **X**

The type control bit is not really added to the 80 bit GMII chunk, it might be confusing.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **44** *L* **37** # 324

Pérez-Aranda, Rubén KDPOF

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

... is prepended to the eight consecutive samples ...

SuggestedRemedy

replace with:
... is prepended to eight consecutive samples ...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **44** *L* **38** # 261

Mendo, Carmen KDPOF

Comment Type **TR** *Comment Status* **X**

Clarify in the text what happens to GMII encodings "not relevant" for this case (eg carrier extend).

SuggestedRemedy

The Matlab code in 114.2.4.1.2 replaces them with "normal inter-frame"; specify if this is a requirement.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **45** *L* **38** # 174

SÃ¡nchez de La Lama, Carlos KDPOF

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

Encoding of LEN is not completely clear from the explanation (could be understood as LEN = 0 and LEN = 1 both indicating one GCTRL present in the GMII chunk).

SuggestedRemedy

Rephrase definition of LEN field as follows:
"LEN<2:0> (CB<2:0>): This field indicates the total number of GMII control samples, encoded as the number of GCTRLs present in the GMII minus one. This field takes the same value for all CBs contained in the PDB.CTRL."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **46** *L* **1** # 299

Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Sentence "Since the minimum length of an ethernet packet is longer than 7 octets, all the GMII control words (GCTRLs) in a chunk must be contiguous, consequently any CBs beyond the first will also be contiguous within the PDB.CTRL" is not exact, as other posibilities exist, for example when a packet has error propagation signaled near the start or the end of the packet, or when there are badly formed short-packets (with less than 7 octets).

In the current formal description of the PCS encoding when a GMII chunk contains more than one section of contiguous GMII control words, it will generate a PDB.CTRL signaling 8 error octets. However this behavious is not desirable as it might produce interframe shrink as normal interframe might gets replaced by error octects in this situation.

SuggestedRemedy

To change the 64/65b encoding formal description by the one in the attached file named ortiz_gepof_pcsenc_proposal_v1.0.m, that contains the updated matlab formal description.

The proposed modification only differs from the one in the document when the GMII control words are not contiguous in a given GMII chunk. When this happens the GMII data octets that are present between GMII control words are replaced by forward error propagation. The proposed modification is valid as the data octects that are being replaced by forward error propagation belong either to a corrupted ethernet packet or to a badly formed short ethernet packet (with less than 8 octets). In both cases they can be safely replaced by forward error propagation control words as GMII clause 35 does not require that the error positions within a packet to be kept, it just require that the packet needs to be correctly identified as erroneous, somethink the proposed modification guarantees. The proposed modification also guarantees that normal interframe is respected, with no shrink.

Appart from this, change paragraph to:
"<Newline> Since the minimum length of an Ethernet packet is longer than 7 octets, all the GMII control words (GCTRLs) in a chunk of a correct packet must be contiguous, consequently any CBs beyond the first will also be contiguous within the PDB.CTRL. When an Ethernet packet contains errors there might be non-contiguous GMII control words within a chunk. In this case the data sections between the control words belong in any case to an erroneous ethernet packet and are transformed in error codes. The resulting GMII chunk is then encoded following the previous description. This can be seen in the formal definition of the encoding in section 114.2.4.1.2."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **46** *L* **1** # 262

Mendo, Carmen KDPOF

Comment Type **TR** *Comment Status* **X**

Clarify if detecting non-contiguous control samples and replacing all the chunk with "transmit error propagation" is a requirement.

SuggestedRemedy

This is not specified in the text, which implies that this is an error condition that should never happen. But the Matlab code in 114.2.4.1.2 implements this check and action (p.48 l.28).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **47** *L* **26** # 304

Ortiz Rojo, David KDPOF

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

Description is not clear.

SuggestedRemedy

Replace paragraph by:
"Since the number of information bits in a Transmit Block (705600 bits) is not a multiple of the PDB length, in general PDBs will not be aligned to the start of a Transmit Block Structure. To guarantee that the receiver can correctly synchronize the PCS decoder at the start of every Transmit Block Struture the field PHD.TX.NEXT.PDB.OFFSET of the Physical Header Data of transmit block j encodes the number of bits between the first payload bit of Transmit Block j+1 and the start of the first PDB encoded in Transmit Block j+1. Therefore, the receiver is able to alighn the PCS decoder for the Transmit Block j+1 once"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **47** *L* **38** # 325

Pérez-Aranda, Rubén KDPOF

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

In Figure 114-17 the filed name of PHD is not complete

SuggestedRemedy

Replace with:
TX.NEXT.PDB.OFFSET

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **47** *L* **43** # 300
Ortiz Rojo, David KDPOF

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

Description is not clear.

SuggestedRemedy

Replace "Let delta(j+1) be the offset ..." by:
"The offset to the start of the first PDB in Transmit Block j+1 can be calculated from the offset calculated for Transmit Block j by using the following equation."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **47** *L* **5** # 196
Mendo, Carmen KDPOF

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

Typo: In Figure 114-16, one index is repeated: GCTRL1 GCTRL2 GCTRL4 GCTRL4.

SuggestedRemedy

Should be: GCTRL1 GCTRL2 GCTRL3 GCTRL4.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **47** *L* **50** # 413
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Wrong equation that defines mod(x,y)

SuggestedRemedy

Replace with:

mod(y,x) = y - x*floor(y/x)

Same correction for P58, L13 and P59, L46

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **48** *L* **1** # 142
Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

Expression 114-3 is incomplete if the value for delta(0) is not specified.

SuggestedRemedy

Indicate that delta(0)=0 and to clarify, add also that delta(1)=40 is the offset of the second transmit block sent within the first transmit block PHD.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.2** *P* **48** *L* **5** # 301
Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

See my comment 119.

SuggestedRemedy

Replace formal description by content of attached file ortiz_gepof_pcsenc_proposal_v1.0.m

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.2** *P* **48** *L* **7** # 333
Pérez-Aranda, Rubén KDPOF

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

Font size may be reduced

SuggestedRemedy

Typically used for code in 802.3: Courier 12pt
Comments in bold font
Apply to all the source codes provided as formal definition.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **42** # 197

Mendo, Carmen KDPOF

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

Typo: "After encpsulation ..".

SuggestedRemedy

Should be: "After encapsulation ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **42** # 16

Gilarranz, Alejandra KDPOF

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

Missing comma after "scrambling".

SuggestedRemedy

Proposed sentence: "After encapsulation and scrambling of GMII data stream, it is encoded into 16-PAM symbols..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **42** # 302

Ortiz Rojo, David KDPOF

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

Typo "encpsulation".

SuggestedRemedy

Replace "encpsulation" by "encapsulation"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **42** # 85

Tapia, Pablo KDPOF

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

Not clear enough. Rewrite.
"After encapsulation of the GMII data stream and scrambling it is encoded into 16-PAM symbols"

SuggestedRemedy

"After being encapsulated and scrambled, the GMII data stream is encoded into 16-PAM symbols."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **42** # 15

Gilarranz, Alejandra KDPOF

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

Typing error in word "encapsulation".

SuggestedRemedy

Write "encapsulation" instead of "encpsulation".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **50** # 198

Mendo, Carmen KDPOF

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

Expression: "The bits .. are protected with a (1976, 1668) BCH code by adding parity bits that provides powerful error correction ..".

SuggestedRemedy

Suggest to remove "by adding parity bits": "The bits .. are protected with a (1976, 1668) BCH code that provides powerful error correction ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **50** # 86

Tapia, Pablo KDPOF

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

If "that provides" applies to "the bits", remove “s”
“parity bits that provide powerful error correction...”

If applies to code change order or rewrite sentence.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **49** *L* **53** # 326

Pérez-Aranda, Rubén KDPOF

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

16-QAM term, and in general X-QAM, is not common to indicate M-ary QAM modulation in 802.3. It is more common QAM16.

SuggestedRemedy

Replace in all the document X-QAM by QAMX.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3** *P* **50** *L* **1** # 375

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

"... same number of symbols per two dimensions."

Sentence is not complete.

SuggestedRemedy

Improve sentence like:
"... same number of symbols per two dimensions per codeword."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.1** *P* **51** *L* **14** # 73

Gilarranz, Alejandra KDPOF

Comment Type **T** *Comment Status* **X**

Numbers in description correspond to bits, and not to bits quadruples or bits triples. In the same text, "1917" has been written instead of "2917".

SuggestedRemedy

Replace text by: "..., input bits 0 through 3, 7 through 10, 14 through 17, and so on up to 2912 to 2915 are assigned in order to the first level, and input bits 4, 5, 6, 11, 12, 13, 18, 19, 20, and so on up to 2916, 2917, 2918 assigned in order to the second level."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.1** *P* **51** *L* **5** # 199

Mendo, Carmen KDPOF

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

Expression: using "quadruple" instead of "quadruplet" and "triple" instead of "triplet".

SuggestedRemedy

Replace "quadruple" with "quadruplet" and "triple" with "triplet" when meaning "a set of 4 (or 3) bits". Several occurrences in this section: l.5, l.13, l.14...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.2** *P* **51** *L* **36** # 303

Ortiz Rojo, David KDPOF

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

Redundant explanation.

SuggestedRemedy

Could be simplified replacing "Shortening is implemented by prefixing some zero bits (bits with value zero) to the data bits. In particular, in this case 71 zero bits are prefixed to the 1668 data bits" to "Shortening is implemented by prefixing 71 zero bits to the 1668 data bits."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.2** *P* **52** *L* **2** # 246

Mendo, Carmen KDPOF

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

Typo: "pc=nc-kc" should be "p=n-k" to follow the notation in this section.

SuggestedRemedy

Replace the formula with "p=n-k".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.2** *P* **52** *L* **23** # 74

Gilarranz, Alejandra KDPOF

Comment Type **T** *Comment Status* **X**

Figure 114-21. "s0" is written in second storage position instead of "s1" after the first mod-2 adder.

SuggestedRemedy

Replace "s0" by "s1".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **52** *L* **32** # 143

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

NMLCC/2 shall be 494 symbols.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **52** *L* **34** # 75

Gilarranz, Alejandra KDPOF

Comment Type **T** *Comment Status* **X**

Number of two-dimensional symbols (988) is not correct.

SuggestedRemedy

Replace number by text: "... coded bits is mapped into N_MLCC/2 = 494 two-dimensional symbols."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **53** *L* **1** # 327

Pérez-Aranda, Rubén KDPOF

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

"For the first level ...." sentence is the same information already provided in previous paragraph.

SuggestedRemedy

Remove sentence

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **53** *L* **36** # 87

Tapia, Pablo KDPOF

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

In expression 114-6, the kQ shall be rounded down, but the rounded up symbol is used.

SuggestedRemedy

Change to rounding-down symbol.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **53** *L* **36** # 79

Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**

Equation 114-6. Rounding up symbol in component Q is wrong.

SuggestedRemedy

Replace rounding up symbol with rounding down symbol.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **53** *L* **36** # 414

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Wrong equation for kQ.

SuggestedRemedy

Replace with:
kQ = floor(kQAM/2)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **53** *L* **39** # 354

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

"That's why"
This sentence should be descriptive not justificatory.

SuggestedRemedy

Eliminate.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **53** *L* **52** # 200

Mendo, Carmen KDPOF

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

Layout: formulae 114-7 and 114-8, and Figure 114-23 should be kept together for clarity.

SuggestedRemedy

Keep formulae 114-7 and 114-8 on the same page, and move Figure 114-23 up (just before the paragraph on p.54, l.6).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **55** *L* **21** # 202

Mendo, Carmen KDPOF

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

Typo: incomplete title of Figure 114-24 (missing constellation size).

SuggestedRemedy

Would be more complete as "Figure 114-24 - 8-QAM quasi-Gray mapper" (add "8-").

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **55** *L* **28** # 201

Mendo, Carmen KDPOF

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

Expression: ".. kQAM is odd, so that the upper branch ..".

SuggestedRemedy

Suggest that for the meaning this should rather read: ".. kQAM is odd, so the upper branch .." (remove "that").

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **55** *L* **30** # 166

SÃ¡nchez de La Lama, Carlos KDPOF

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

No mention of reset value of free counter controlling the demultiplexer. Also left unsaid is when it should be reset.

SuggestedRemedy

Add the following the paragraph ending on line 30:
"The reset state of the counter should be zero. Since the counter is reset for each set of kQAM bits, it always starts at zero for each new codeword entering the mapper."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **55** *L* **32** # 355

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

L32: This sentence together with equation is already introduced in first level mapping, therefore provide redundant information not needed.

L39: "That's why"

SuggestedRemedy

L32: Eliminate.
L38: Replace by "Therefore"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.4** *P* **55** *L* **51** # 88

Tapia, Pablo KDPOF

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

Wrong alignment between points 1 and 2. Seems that there is an extra space in “1)”

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.4** *P* **56** *L* **14** # 32

Gilarranz, Alejandra KDPOF

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

Equation 114.12. Wrong variable "j" instead of "x" is said to belong to the set of complex numbers.

SuggestedRemedy

Replace expression by: "For all x belonging to the set of complex numbers."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.4** *P* **56** *L* **16** # 203

Mendo, Carmen KDPOF

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

Typo: ".. wherein "rem" operator denotes reminder after integer division."

SuggestedRemedy

Should be "remainder" not "reminder".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.4** *P* **56** *L* **22** # 328

Pérez-Aranda, Rubén KDPOF

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

no space before Lambda_1_t

SuggestedRemedy

add space

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.4** *P* **56** *L* **4** # 415

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Lambda_1_t(l) is not correct

SuggestedRemedy

Replace with:
Lambda_1,1_t(l)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.5** *P* **57** *L* **21** # 204

Mendo, Carmen KDPOF

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

Expression: this paragraph looks too verbose?

SuggestedRemedy

Replace ll.21-24 ("After performing .. in Figure 114-27.") with:
At the output of the first lattice transformation, the symbols from the two levels are added together as shown in Figure 114-27, thus performing the coset partitioning over Z2. The resulting in-phase and quadrature components are hereafter labeled as SIa and SQa respectively.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **57** *L* **51** # 206

Mendo, Carmen KDPOF

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

Expression: missing "The"?

SuggestedRemedy

Replace: "2D symbols" with "The 2D symbols".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **57** *L* **51** # 205

Mendo, Carmen KDPOF

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

Expression, redundant info.

SuggestedRemedy

Suggest to skip the reference to components (just explained): remove:
"whose in-phase and quadrature .. respectively, "

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **13** # 167

SÃ¡nchez de La Lama, Carlos KDPOF

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

Formula (114-14) has mod function arguments reversed.
Same problem appears in formula (114-15) in page 59, line 46.

SuggestedRemedy

Change affected definitions to: mod(y, x) = y - x * floor (x / y)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **16** # 329

Pérez-Aranda, Rubén KDPOF

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

Equation of psi may be eliminated since it was already introduced before

SuggestedRemedy

Eliminate psi equation and rewording to indicate value of that.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **16** # 209

Mendo, Carmen KDPOF

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

Expression on ll.16-18: "Second lattice transformation operates .. respectively".

SuggestedRemedy

The second lattice transformation operates on 2D symbols (denoted by x). Again we consider that x is a complex number where the real and imaginary parts are respectively the in-phase and quadrature components of the 2D symbol.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **23** # 33

Gilarranz, Alejandra KDPOF

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

Symbol "S^a" subindexes "1" and "2" are not correct.

SuggestedRemedy

Replace subindexes by "I" and "Q" for symbol "S^a".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **3** # 207

Mendo, Carmen KDPOF

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

Typo: "Modulo operation which constraints ..".

SuggestedRemedy

Should be: "Modulo operation which constrains ..".
Need to correct also in p.58 l.21.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **38** # 210

Mendo, Carmen KDPOF

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

Expression: "Since in the above .. that shows the operation".

SuggestedRemedy

For clarity, suggest to replace the beginning of this paragraph:
"Note that the divisor in the modulo operation above is a power of 2; it can therefore be simplified into a logic "AND". Figure 114-29 shows the operation"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **44** # 356

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Figure 114-29 is not consistent with nomenclature used for mod operation in the text

SuggestedRemedy

Replace mod 2^ceil(psi) by "mod(X, 2^ceil(psi))

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.6** *P* **58** *L* **8** # 208

Mendo, Carmen KDPOF

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

Expression: "In particular, the complete second lattice ..".

SuggestedRemedy

Remove "In particular".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.7** *P* **58** *L* **53** # 211
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Expression: redundant: "The multiplexing operation performed by .. the multiplexer".

SuggestedRemedy
Remove "multiplexing" at the beginning of the sentence.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.7** *P* **59** *L* **24** # 455
Tajima, Takayuki Yazaki corporation

Comment Type **E** *Comment Status* **X**
Figure 114-30
typo:"multiplerer"

SuggestedRemedy
Replace by "multiplexer"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.7** *P* **59** *L* **6** # 212
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Expression: "should be reset".

SuggestedRemedy
Suggest to replace with "shall be reset".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **59** *L* **36** # 214
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Typo: "the left most digit".

SuggestedRemedy
Should read: "the leftmost digit" (no space).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **59** *L* **39** # 89
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
In "b0:3" use subscript for "0:3"

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **59** *L* **43** # 331
Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **X**
Voronoi's region ... pedantic term not needed for the functionality description and explanation may be improved.

SuggestedRemedy
Replace sentence with:
"Modulo operation reduces the scrambled symbols to the same signal set of the input. Modulo operation is compatible with the subsequent Tomlinson-Harashima precoder and is defined as.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **60** *L* **22** # 215
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Typo? In Figure 114-32, input is: "From coded 16-PAM Encoder".

SuggestedRemedy
Remove "coded"? Better as just "From 16-PAM Encoder"...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **60** *L* **22** # 330

Pérez-Aranda, Rubén KDPOF

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

Figure 114-32 can be improved

SuggestedRemedy

Eliminate index m from u and y, since it is not necessary and can produce confusion.
Eliminate Fs, since it is not necessary and complicate the figure.
Eliminate [-2^k, 2^k) from modulo box.
Eliminate extra parenthesis in the 1st argument of mod operator

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **60** *L* **23** # 80

Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**

In figure 114-32, expression [-2^k, -2^k) is incorrect.

SuggestedRemedy

Replace expression with [-2^k, 2^k)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.5** *P* **60** *L* **41** # 388

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Wrong equation for calculation of v(m).

SuggestedRemedy

Replace "m - i + 1" with "m - i - 1", as:

v(m) = sum(i=0, Nb-1, b(i)*y(m-i-1));

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.5** *P* **60** *L* **45** # 81

Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**

In equation 114-17, term v(m) must be added instead of subtracted.

SuggestedRemedy

Replace equation with u(m) = x(m) + v(m)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.5** *P* **60** *L* **47** # 332

Pérez-Aranda, Rubén KDPOF

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

Equation 114-18 can be simplified. The term M does not provide additional information.

SuggestedRemedy

Replace by:
y(m) = mod(u(m) + 16, 32) - 16

and eliminate the sentence later in L51, since it does not provide value.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.5** *P* **60** *L* **52** # 217

Mendo, Carmen KDPOF

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

Typo: ".. the symbols at the input of THP belogs to ..".

SuggestedRemedy

Should read: ".. the symbols at the input of the THP belong to ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.5** *P* **60** *L* **53** # 218
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Layout: range of values split over different pages.

SuggestedRemedy
Keep the range "[-16,16)" in the same page and line for clarity.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.5** *P* **61** *L* **9** # 82
Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**
In figure 114-33, v(m) term is subtracted to x(m). It should be added instead.

SuggestedRemedy
Remove minus sign at the adder input of v(m) in figure 114-33.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3** *P* **61** *L* **20** # 219
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Expression: ".. and, the PHY control state diagrams that involve both the local PHY and the link partner PHY."

SuggestedRemedy
Remove extra comma and simplify, for example:
".. and the state machines that control both the local and remote PHYs."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3** *P* **61** *L* **21** # 90
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
Remove comma in "the Physical Header Data (PHD) and, the PHY control state..."

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3** *P* **82** *L* **1** # 131
Tapia, Pablo KDPOF

Comment Type **ER** *Comment Status* **X**
Some fields in Table 114-3 are repeated. The contained information is inconsistent.

SuggestedRemedy
Review table contents.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **61** *L* **51** # 376
Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**
Description is not technically accurate

SuggestedRemedy
PHD.CAP.* fields inform about the capability of the local PHY to use optional features. In particular, PHD.CAP.LPI is used by the PHY to advertise Energy-Efficient Ethernet (EEE) is supported and enable, whereas PHD.CAP.OAM signals that the PHY supports and has enabled the capability to run the OAM (Operations, Administration and Management) message exchange protocol. PHD.OAM.* fields are reserved for the exchange of OAM messages itself.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **62** *L* **1** # 220
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Expression: ".. reserved for the exchange of OAM messages itself."

SuggestedRemedy
Singular "itself" is incorrect. Suggest: ".. reserved for the contents of the OAM messages."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **62** *L* **2** # 443
Ortiz Rojo, David KDPOF

Comment Type **E** *Comment Status* **X**
Typo: "OAM messages itself".

SuggestedRemedy
Replace "itself" by "themselves"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **62** *L* **4** # 34
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Error in text "All the PHD fiels are transmitted from the least to the more significant bit..."

SuggestedRemedy
Replace "more significant bit" by "most significant bit" in text.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **62** *L* **4** # 221
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Typo: ".. from the least to the more significant ..".

SuggestedRemedy
Should read: ".. from the least to the most significant ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **62** *L* **4** # 334
Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **X**
... to the more significant bit ...

SuggestedRemedy
Replace with:
... to the most significant bit ...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **62** *L* **8** # 335
Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **X**
Description may be better

SuggestedRemedy
Replace with:
"... to refer to the PHD transmitted to the link partner (from local to remote PHY) and the PHD received from the link partner (from remote to local PHY), respectively."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **63** *L* **13** # 417

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

P63, L13: Description of PHD.TX.NEXT.PDB.OFFSET is vague
P63, L26: In description of PHD.RX.REQ.THP.COEF[0:8] it should be indicated that b(k) coefficients are exactly the same indicated in 114.2.4.5.
P63, L36: wrong reference
P63, L46: wrong reference
P64, L5, Description: I miss a cross reference
P64, L5, Valid values: eliminate example, because it is already in C/45 and formal definition is provided for fixed-point format.
P64, L14: vague
P64, L20: vague

SuggestedRemedy

P63, L13:
"Used to announce to the receiver the offset (in number of bits) of the first PDB belonging to the first payload data sub-block in the next Transmit Block (see 114.2.4.1.1). Offset 0 indicates the first PDB starts aligned to first code-word of next Transmit Block"

P47, L29:
"... is used to announce to the receiver the offset in number bits of the start of the first PDB (PDB0) belonging to the first data payload sub-block in Transmit Block j+1 ..."

P63, L26, Description:
"Requested THP coefficients set when PHD.RX.REQ.THP.SETID is not equal to 0.
These are the 9 coefficients b(i) of equation (114-16) (see 114.2.4.5)."

P63, L26, Valid values:
Add "(see 114.3.4)"

P63, L36:
"(see 114.3.2.3)"

P63, L46:
"(see 114.3.2.1.4)"

P64, L5, Description:
"(see 114.3.2.3)"

P64, L5, Vaid values:
Eliminate example.
Add "(see 114.3.4)"

P64, L14, Description:
"This field indicates the PHY supports and is enable for EEE, so that it is able to transmit and receive Low Power Idles during the payload data sub-blocks (see 114.5)"

P64, L14, Valid values:
"0: EEE is not supported or is disable
1: EEE is supported and is enable"

P64, L20, Description:
"This field indicates the PHY supports and is enable for OAM protocol, so that it is able to transmit and receive management information by using the PHD.OAM.* fields (see 114.4)"

P64, L20, Valid values:
"0: OAM is not supported or is disable
1: OAM is supported and is enable"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **62** *L* **47** # 419

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

PMD is connected to PCS, but not PMA, accoding to functional block diagram of 114.1.5

SuggestedRemedy

P62, L47: "Upon reset or disconnection of the PCS from the PMD, PHY receive operation is disabled. Once the PCS is connected to the PMD ..."

P66, L1: "Upon reset or disconnection of the PCS from the PMD, PHY transmitter operation is disabled. Once the PCS is connected to the PMD ..."

P66, L19: "Upon reset or disconnection of the PCS from the PMD, ..."

P68, L6: "Upon reset or disconnection of the PCS from the PMD, ..."

P68, L51: "Upon reset or disconnection of the PCS from the PMD, ..."

P69, L30: "Upon reset or disconnection of the PCS from the PMD, ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **62** *L* **48** # 222
Mendo, Carmen KDPOF

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

Expression: ".. shall carry out the clock recovery ..".

SuggestedRemedy

Suggest: ".. shall perform the clock recovery ..".
Also on p.62 l.52-53: ".. shall be carried out ..".
Also on p.65 l.44: ".. to carry out continuous adaptation ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **62** *L* **49** # 223
Mendo, Carmen KDPOF

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

Format: avoid splitting mnemonics between lines.

SuggestedRemedy

Keep "PMARX_TIMING_COARSE" in one line.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **62** *L* **54** # 224
Mendo, Carmen KDPOF

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

Confusing format: do not cut a sentence with a 3-page table.

SuggestedRemedy

The sentence starting at p.62 l.54 and continued at p.65 l.23 should instead finish at p.63 l.1 (before Table 114-2).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **63** *L* **1** # 225
Mendo, Carmen KDPOF

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

Confusing layout: location of Table 114-2??

SuggestedRemedy

Move to the end of 114.3.1.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **63** *L* **1** # 17
Gilarranz, Alejandra KDPOF

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

Table 114-2 "Physical Header Data definition" is placed in subclause named "PMA control state diagram descriptions"

SuggestedRemedy

Place Table 114-2 in subclause 114.3.1 ("Physical Header Data")

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **23** # 416
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

"... or based blind algorithms ..."
is not technically correct because the equalization training is after rcvr_clock_lock = OK, therefore equalizer has not been estimated yet to be used by this kind of blind equalizers

SuggestedRemedy

Replace with from P62, L54:
"Fine timing recovery may be implemented based on data-aided algorithms that use the received S1 and S2 pilot sub-blocks."

P65, L29:
Eliminate "as already mentioned"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **29** # 226

Mendo, Carmen KDPOF

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

Confusing expression (and wrong reference?): "Blind tracking algorithms .. in REMPHD.RX.HDRSTATUS, see 114.3.2)".

SuggestedRemedy

Suggest to rephrase more simply and change the final reference: "If using blind tracking algorithms, these may be enabled once equalizers are trained. Also at this point the PHY receiver should be able to reliably extract the PHD sent by the link partner; in particular it should be able to determine whether the remote PHY is indicating correct reception of the PHD on its side (see Table 114-2)."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **32** # 468

Grow, Robert RMG Consulting

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

The statement: 'The criteria to determine reliable PHD reception are left to the implementer and may be based on the correctness of the CRC-16 as defined in 114.2.3.1.' is not consistent with the 114.2.3.1.4 statement: 'From then on, the correctness of each received PHD block is determined by evaluating the CRC-16 . . .'

SuggestedRemedy

Delete the sentence as also recommended in PMA PICS comment.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **32** # 377

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

The sentence "The criteria to determine reliable PHD reception are left to the implementer and may be ..." does not agree with 114.3.2.1.4.

SuggestedRemedy

Replace with:
"The criteria to determine reliable PHD reception is to be based on the correctness of CRC16 code as defined in 114.2.3.1"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **32** # 336

Pérez-Aranda, Rubén KDPOF

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

L32: Wrong reference

L38: Wrong reference

SuggestedRemedy

L32: ELiminate reference, because it do not provide info. 114.3.2.1.4 (the correct one) is later in L34.

L38: replace with 114.3.2.2

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **36** # 227

Mendo, Carmen KDPOF

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

Expression: ".. the PHY receiver shall be able .. described in 114.3.2.2.2."

SuggestedRemedy

Suggest to rephrase: ".. the PHY receiver should be able to initialize the THP following the state diagram explained in 114.3.2.2.2."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **40** # 228

Mendo, Carmen KDPOF

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

Expression too verbose: ".. whether a reliable reception .. is taking place."

SuggestedRemedy

Suggest to rephrase: ".. whether this reception is reliable."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **41** # 229
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Should be more precise: ".. by using the PHD.RX.LINKSTATUS field".

SuggestedRemedy
Should better read: ".. by asserting the PHD.RX.LINKSTATUS field".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.1** *P* **65** *L* **43** # 230
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Format: confusing hyphenation: ".. should be able to prop-".

SuggestedRemedy
Do not split the word "properly".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.2** *P* **66** *L* **1** # 231
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Confusing layout: Table 114-35 on p.67 as if belonging to 114.3.2.1.3.

SuggestedRemedy
Part of 114.3.2.1.2 so should appear before the beginning of next section eg on p.66.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.2** *P* **66** *L* **2** # 232
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Expression: "Once the PMA is connected .. in 114.2.1, so that the remote PHY ..".

SuggestedRemedy
Suggest rephrasing more simply: "Once the PMA is connected to the PMD (link_control=ENABLE), the local PHY starts sending Transmit Blocks as explained in 114.2.1, so that the remote PHY ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.2** *P* **66** *L* **9** # 91
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
Change "disconnected of" to "disconnected from".

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.2** *P* **69** *L* **29** # 136
Tapia, Pablo KDPOF

Comment Type **T** *Comment Status* **X**
Are rem_rcvr_hdr_lock and loc_rcvr_hdr_lock updated before or after rcvr_hdr_lock upon the reception of a new PHD block. Does it matter? Clarify.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.3** *P* **66** *L* **19** # 233

Mendo, Carmen KDPOF

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

Expression: "Once the local PHY .. received from the remote PHY." Also PHD field names don't match Table 114-2.

SuggestedRemedy

Suggest rephrasing more clearly and using field names from Table 114-2: "The variables loc_rcvr_status and rem_rcvr_status track the state of local and remote data reception respectively. When the PHY determines that its reception of payload data sub-blocks is reliable, it changes loc_rcvr_status to OK and asserts field LOCPHD.RX.LINKSTATUS. When the PHY receives from its link partner a PHD block with field REMPHD.RX.LINKSTATUS asserted, it changes rem_rcvr_status to OK."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.3** *P* **66** *L* **19** # 444

Ortiz Rojo, David KDPOF

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

The word obviously is colloquial and does not add information to the standard. It should be removed.

SuggestedRemedy

Remove the word "obviously".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.3** *P* **66** *L* **23** # 357

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

"Let us note ..." is wrong wording.

SuggestedRemedy

Eliminate "Let us note that" and start eith capital "The value of"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.3** *P* **67** *L* **3** # 54

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Figure 114-35 "PHY TX control state diagram" is depicted after subclause 11.3.2.1.3. but it is explained in subclause 11.3.2.1.2.

SuggestedRemedy

Move Figure 114-35 to subcaluse 11.3.2.1.2.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **68** *L* **12** # 337

Pérez-Aranda, Rubén KDPOF

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

"(LOCPHD.RX.HDRSTATUS OK)" assignment symbol is not present.

SuggestedRemedy

Replace with:
"(LOCPHD.RX.HDRSTATUS <= OK)"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **68** *L* **14** # 20

Gilarranz, Alejandra KDPOF

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

Missing subclause containing definition of MAX_HDR_FAIL constant.

SuggestedRemedy

Add subclause similar to 114.3.2.1.5 to define "PHY control state constants".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **68** *L* **15** # 420

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Clock Recovery function belongs to PCS RX, according to 114.1.5

SuggestedRemedy

Eliminate "PMA"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **68** *L* **3** # 19

Gilarranz, Alejandra KDPOF

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

Typing error in variable name loc_rcvr_hrd_lock.
A similar error appears in page 68, line 49, in variable rmt_rcvr_hrd_lock.

SuggestedRemedy

Replace variables name with loc_rcvr_hdr_lock and rmt_rcvr_hdr_lock.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **68** *L* **31** # 18

Gilarranz, Alejandra KDPOF

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

Typing error in variable name loc_rcvr_hrd_lock.

SuggestedRemedy

Replace variable name with loc_rcvr_hdr_lock.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **68** *L* **7** # 263

Mendo, Carmen KDPOF

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

Expression: "This shall be indicated .. to LOCKHDR_UNLOCK status occurs."
Explanation about CRC not clear. Some typos in variable names.

SuggestedRemedy

Suggest rephrasing more simply:
"This shall be indicated to the link partner by assigning NOT_OK to the field LOCPHD.RX.HDRSTATUS on the transmitted PHD. In this state (LOCHDR_UNLOCK) the receiver is waiting for a valid PHD i.e. one with correct CRC-16; variable hdr_fail_cnt holds the count of contiguous PHD blocks received with errors. Reception of one correct PHD triggers the transition to state LOCKHDR_LOCK and resets the PHD errors count (hdr_fail_cnt=0). In state LOCKHDR_LOCK the variable loc_rcvr_hdr_lock and the field LOCPHD.RX.HDRSTATUS are assigned the value OK. The PHY keeps checking the CRC-16 of received PHD blocks, incrementing hdr_fail_cnt with each erroneous PHD and resetting it with each valid PHD. If hdr_fail_cnt reaches the limit of MAX_HDR_FAIL=2, or the PMA Clock Recovery function detects that the PHY has lost synchronization, then the state transitions back to LOCHDR_UNLOCK.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **68** *L* **9** # 234

Mendo, Carmen KDPOF

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

Naming: counter "hdr_fail_cont".

SuggestedRemedy

Change to hdr_fail_cnt (or hdr_fail_count).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.4** *P* **69** *L* **37** # 264

Mendo, Carmen KDPOF

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

Format: confusing hyphenation.

SuggestedRemedy

Do not split variable names between lines, keep "rcvr_hdr_lock" in one line.
Also for PMAMON_WAITING in 114.3.2.3, p.78, l.5.
Also for THPREQ_WAITFOR_EST in 114.3.2.2.2, p.73, l.49.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **70** *L* **35** # 418

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Wrong description, PMA is not connected to PMD.
Autonegotation is not defined for -H type PHYs, therefore this term should be avoided.

SuggestedRemedy

Replace with:
link_control
Variable that controls the connection between PCS and PMD sublayers.
Values:DISABLE: isolates the PCS from the PMD
ENABLE: connects the PCS to the PMD (both transmitter and receiver)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **70** *L* **41** # 21

Gilarranz, Alejandra KDPOF

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

Typing error. Duplicated word "start".

SuggestedRemedy

Remove duplicated word.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **70** *L* **41** # 338

Pérez-Aranda, Rubén KDPOF

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

twice "start" at the end of the line

SuggestedRemedy

eliminate one of them.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **70** *L* **41** # 92

Tapia, Pablo KDPOF

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

Redundant "start":
"with the start start of Transmit Blocks."

SuggestedRemedy

"with the start of Transmit Blocks."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **70** *L* **41** # 265

Mendo, Carmen KDPOF

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

Typo: ".. with the start start of ..".

SuggestedRemedy

Remove extra "start".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **70** *L* **46** # 266

Mendo, Carmen KDPOF

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

Typo: ".. from the receive signal."

SuggestedRemedy

Suggest that this should be "the received signal". Also in l.48 and l.50.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **70** *L* **53** # 421

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

P70, L53: "receive link" is a new term. link is established bidirectional. Description is confuse.

P71, L4: no precise description.

P71, L9: PMA_LINK.indication does not exist. Incomplete names of state diagrams.
64B/65B encoder is really enable/disable, but connected/disconnected to GMII TX. PDB are generated by the 64B/65B encoder from the beginning, independently of connection to GMII.

SuggestedRemedy

P70, L53, Replace with:
"Variable set by the PHY quality monitor state diagram to indicate the correct or incorrect data payload decoding of the local PHY receiver.
Values:OK: the receiver of the local PHY is operating reliably
NOT_OK: operation of the receiver of the local PHY is unreliable"

P71, L4, Replace with:
"Variable set by the reception of a PHD indicating the receiver status of the remote (link partner) PHY in the data payload decoding.
Values:OK: the receiver of the remote PHY is operating reliably
NOT_OK: operation of the receiver of the remote PHY is unreliable"

P71, L9, Replace with:
"Variable that is set by the link monitor state diagrams and used by PMA TX and RX PHY control state diagrams to connect GMII TX to the 64B/65B encoder and the 64B/65B decoder to GMII RX, respectively
Values:OK: the link has been established between link partners guaranteeing data reliability in both communication directions
FAIL: link is not established (one or both directions are not providing reliability in data payload decoding)"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **71** *L* **17** # 358

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Ofuscated description of loc_rcvr_hdr_lock, rem_rcvr_hdr_lock and rcvr_hdr_lock.

SuggestedRemedy

loc_rcvr_hdr_lock
Variable set by the local PHD reception monitor state diagram to indicate the reliability of PHD reception.
Values:OK: local PHD reception is reliable
NOT_OK: local PHD reception is unreliable

rem_rcvr_hdr_lock
Variable set by the remote PHD reception monitor state diagram to indicate the reliability of PHD reception in the remote PHY (link partner).
Values:OK: PHD reception is reliable by the link partner
NOT_OK: PHD reception is unreliable by the link partner.

rcvr_hdr_lock
Variable set by the PHD monitor state diagram to indicate the reliability of both the PHD transmission from local to remote PHY and the PHD reception from remote to local PHY.
Values:OK: PHD transmission and reception are reliable
NOT_OK: PHD transmission or reception are unreliable

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **71** *L* **22** # 168

SÃ¡nchez de La Lama, Carlos KDPOF

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

There seems to be stale text at the end of line 23. Surely there is a stale closing bracket.

SuggestedRemedy

Change definition in lines 22-24 to:
Variable set by the reception of a PHD indicating PHD reception of the remote (link partner) PHY (114.3.1, REMPHD.RX.HDRSTATUS)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **71** *L* **23** # 55

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Typing error. Extra parenthesis appears at the end of the sentence.

SuggestedRemedy

Revise sentence that contains extra parenthesis.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **71** *L* **39** # 339

Pérez-Aranda, Rubén KDPOF

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

A cross reference to 114.3.2.2.2 may be added, because the THP REQ state diagram has not been introduced yet.
Eliminiate adaptive, it is redundant.

SuggestedRemedy

rcvr_thp_lock
Variable set by the THP REQ state diagram (see 114.3.2.2.2) to indicate ...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **71** *L* **42** # 267

Mendo, Carmen KDPOF

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

Typo: ".. payload data is received ..".

SuggestedRemedy

Should read: ".. payload data are received ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **71** *L* **45** # 359

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

PCS encoder/decoder are not really defined. The correct term is 64B/65B enc/decoder.

SuggestedRemedy

rx_gmii_enable
Variable set by the PHY RX control state diagram to connect or disconnect the 64B/65B decoder to the GMII RX; this connection is only enabled when a bidirectional link is established
Values:TRUE: 64B/65B decoder is connected to GMII RX
FALSE: 64B/65B decoder is not connected to GMII RX

tx_gmii_enable
Variable set by the PHY TX control state diagram to connect or disconnect the 64B/65B encoder to the GMII TX; this connection is only enabled when bidirectional link is established
Values:TRUE: 64B/65B encoder is connected to GMII TX
FALSE: 64B/65B encoder is not connected to GMII TX (normal interframe are encoded in trasmitted PDBs)

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **71** *L* **53** # 35

Gilarranz, Alejandra KDPOF

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

"Normal idle" term is used instead of "Normal Inter-gap" or "Idle".
This term also appears in page 72, line 4.

SuggestedRemedy

Modify text by "(idles are transmitted)"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **72** *L* **1** # 422

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Incomplete/incorrect description of state variable tx_enable.

SuggestedRemedy

tx_enable
Variable set by the PHY TX control state diagram to enable the PCS transmit function.
Values:TRUE: PCS transmitter is enabled
FALSE: PCS transmitter is disabled

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **72** *L* **3** # 268

Mendo, Carmen KDPOF

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

Typo: "PHY transmitter are enabled".

SuggestedRemedy

Should read: "PHY transmitter is enabled".
Also in l.5.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **72** *L* **3** # 93

Tapia, Pablo KDPOF

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

"PHY transmitter are enabled"

SuggestedRemedy

"PHY transmitter is enabled"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5** *P* **72** *L* **3** # 269

Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**

Effect of tx_enable on PMD TX not clear: "as a function of the operation mode (i.e. normal idle, or LPI)"

SuggestedRemedy

Clarify?

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1.5♂** *P* **70** *L* **41** # 173

SÃ¡nchez de La Lama, Carlos KDPOF

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

Text "synchronization with the start start of Transmit Blocks." Word "start" appears twice, most likely a typo.

SuggestedRemedy

Change text to: "synchronization with the start of Transmit Blocks."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **21** # 423

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

L21: The equalizer is located within the PCS receive function, but not PMA.

L24: "receiver" has to be indicated.

SuggestedRemedy

L21: replace "PMA" by "PCS" or "PHY"

L24: "is to be fully implemented in the PHY receiver and does not require coordination with the link partner transmission."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **22** # 94

Tapia, Pablo KDPOF

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

Change:
"For the estimation of the filters in charge to linearize the channel,..."

SuggestedRemedy

To:
"For the estimation of the filters in charge of channel linearization,..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **22** # 270

Mendo, Carmen KDPOF

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

Typo: ".. in charge to linearize ..".

SuggestedRemedy

Should read: ".. in charge of linearizing ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **23** # 95

Tapia, Pablo KDPOF

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

Two consecutive and's in:
"Channel linearization is up to the implementer and is to be fully implemented in the PHY and does not require coordination with..."

SuggestedRemedy

Better read as:
“Channel linearization is up to the implementer and is to be fully implemented in the PHY. It does not require coordination with the link partner...”

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **23** # 271

Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**

Requisite not clear: [channel linearization] "is to be fully implemented in the PHY".

SuggestedRemedy

Clarify or suppress this requirement.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **30** # 340

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Colloquial ...

SuggestedRemedy

Replace with:
"The receiver has to implement equalizer estimation that determines the value of the pair of filters (FFF and FBF). This estimation may use the received pilot S2 sub-blocks and is to be performed periodically in order to follow the channel response variations."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **37** # 341

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

L37: "setid" term is being used to defined SETID.

L43, colloquial and tense not correct.

SuggestedRemedy

L37, Replace with:
"field LOCPHD.RX.REQ.THP.SETID of transmitted PHD blocks to unambiguously identify it"

L43, Replace with:
"The local receiver may use the same set of FBF coefficients o equalize the received PHS based on MLSE (Maximum-Likelihood Sequence Estimation) using the Viterbi algorithm (VA)."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2** *P* **72** *L* **43** # 445
Ortiz Rojo, David KDPOF

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

"Let us note" is colloquial.

SuggestedRemedy

Remove 'Let us note'.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.1** *P* **73** *L* **21** # 342
Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

The sentence is coloquial and does not provide any information not already provided before.
Incorrect use of "shall"

SuggestedRemedy

Eliminate sentence (L21 and L22).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.1** *P* **73** *L* **21** # 446
Ortiz Rojo, David KDPOF

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

Sentence is not clear, and it is redundant with the contents of the state diagram.

SuggestedRemedy

Remove it or change by:
"PHD information shall be updated per Transmit Block basis, the fields PHD.TX.NEXT.* shall always carry information according to the next Transmit Block.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.1** *P* **73** *L* **29** # 272
Mendo, Carmen KDPOF

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

Typo: ".. all subsequent sent Transmit Blocks ..".

SuggestedRemedy

Remove "sent": "all subsequent Transmit Blocks".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.1** *P* **73** *L* **38** # 273
Mendo, Carmen KDPOF

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

Confusing layout: Figure 114-40 far from section 114.3.2.2.1.

SuggestedRemedy

Keep Figure 114-40 within section 114.3.2.2.1.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.1** *P* **73** *L* **7** # 378
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

L7: PMA is not connected to PMD.
Same error in L44 of same page.

SuggestedRemedy

Replace with, both L7 and L44:
"Upon PMA reset, disconnection of the PCS from the PMD or ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.2** *P* **73** *L* **51** # 274

Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**

Clarify FFF management.

SuggestedRemedy

If FFF coefficients are handled in the same way as FBF then remove "FBF" from l.51 for clarity. Otherwise explain.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.2** *P* **74** *L* **15** # 447

Ortiz Rojo, David KDPOF

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

Sentence 'However, let us note that until the last THP..." is not clear.

SuggestedRemedy

Replace it by: "However the local PHY is not allowed to make a new THP request until the previous THP request has been handled by the link partner, even if a new set of coefficients is available from the estimator (condition new_..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.2** *P* **74** *L* **20** # 448

Ortiz Rojo, David KDPOF

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

Sentente is not clear, and language is colloquial. It should be highlighted that changes in the tx PHD must be coherent.

SuggestedRemedy

Change the sentence to:
"Although this state diagram is asynchronous with local PHY transmission, the PHD information generated by it shall be updated in the PHD of the next available Transmit Block. The integrity of the information that is updated in a given state and spans across several fields should be guaranteed, that is, the PHD changes that are produced in a given state should be updated in the same transmit PHD"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.2** *P* **74** *L* **20** # 424

Pérez-Aranda, Rubén KDPOF

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

Colloquial

SuggestedRemedy

Eliminate "Let us note that,"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.2** *P* **75** *L* **4** # 169

SÃ¡nchez de La Lama, Carlos KDPOF

Comment Type **T** *Comment Status* **X**

In figure 114-41, UCT transition from THPREQ_UPDATE to THPREQ_REQUEST does not seem to be needed; none of the inputs variables of THPREQ_REQUEST change in in THPREQ_UPDATE.

SuggestedRemedy

Eliminate UCT from THPREQ_UPDATE to THPREQ_REQUEST and conditional transition from THPREQ_REQUEST to THPREQ_STORE; add a transition from THPREQ_UPDATE to THPREQ_STORE with condition (new_thp_coef_event = TRUE).
Resulting state diagram is equivalent and simpler; text description does not need to be updated. Steady state is THPREQ_UPDATE after this change, instead of THPREQ_REQUEST.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.2** *P* **76** *L* **14** # 275

Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**

Transition from THPREQ_UPDATE to THPREQ_STORE through THPREQ_REQUEST confusing.

SuggestedRemedy

Would understand better a transition through a different state where stored FFF coefficients are enabled for use.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.2** *P* **76** *L* **20** # 83

Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**

Figure 114.41. Condition must be added to transition from THPREQ_REQUEST state to THPREQ_UPDATE state, in order to avoid ambiguity in case new_rxphd_event=TRUE and new_thp_coef_event=TRUE happen at the same time (the value TRUE extends during one receive symbol period for both events).

SuggestedRemedy

Replace condition to transition from THPREQ_REQUEST state to THPREQ_UPDATE state by:
"new_rxphd_event=TRUE *
hdr_crc16_status=OK *
(REMPHD.TX.NEXT.THP.SEDIT=thp_setid) *
thp_pending=TRUE
"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **76** *L* **43** # 276

Mendo, Carmen KDPOF

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

Expression: "Variable set by a PHD reception, it is the coefficients ..".

SuggestedRemedy

Suggest as in previous item: "Variable set by a PHD reception, it contains the coefficients ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **76** *L* **43** # 96

Tapia, Pablo KDPOF

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

Change:
"Variable set by a PHD reception, it is the coefficients requested by the link partner..."

SuggestedRemedy

To:
“Variable set by a PHD reception, that contains the coefficients requested by the link partner...”

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **76** *L* **43** # 425

Pérez-Aranda, Rubén KDPOF

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

P76. L43, and L48, Unaccurate.
P76. L54, capital "Adaptive"
P77. L5, capital "Adaptive"
P77. L11, capital "Adaptive"

SuggestedRemedy

P76. L43, Replace with:
"Variable set by the adaptive THP TX state diagram when a correct PHD reception occurs. It is the coefficients requested by the link partner to be used for TH precoding of the payload data sub-blocks. ..."

P76. L48, Replace with:
"Variable set by the adaptive THP TX state diagram when a correct PHD reception occurs. It is the set identifier ..."

P76, L54: replace with "adaptive"

P77, L5: replace with "adaptive"

P77, L11: replace with "adaptive"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **76** *L* **44** # 277

Mendo, Carmen KDPOF

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

Typo: "in fix-point format".

SuggestedRemedy

Should be "in fixed point format".
Also in Matlab code on p.79.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **77** *L* **1** # 97

Tapia, Pablo KDPOF

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

Change:
"requested of"

SuggestedRemedy

To:
"requested by"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **77** *L* **1** # 170

SÃ¡nchez de La Lama, Carlos KDPOF

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

"requested of the link partner." Likely a typo.

SuggestedRemedy

Change text to "requested to the link partner."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **77** *L* **1** # 360

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Wrong: OF the link partner.
The adaptibe THP REQ state diagram requests TO the link parner.
Using OF, the sentence can be interpreted as the state diagram receives a request from the link partner. However, this state diagram is the one that performs the requests for changing THP coefs.

SuggestedRemedy

Replace "of" with "to"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.2.3** *P* **77** *L* **21** # 426

Pérez-Aranda, Rubén KDPOF

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

Obfuscated dscription

SuggestedRemedy

"Variable set by the PHY receiver to indicate a new estimation of THP coefficients is available.
Values:TRUE: indicates a new set of THP coefficients is ready to be used. The value TRUE extends one receive symbol period. It may be asynchronous with the received block start
FALSE: indicates no new set of THP coefficients

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.3** *P* **77** *L* **46** # 449

Ortiz Rojo, David KDPOF

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

Language is colloquial.

SuggestedRemedy

Replace the sentence by:
"The value of the threshold and the information used to estimate the noise variance is implementation dependent and not covered by this standard."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.3** *P* **77** *L* **52** # 379

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

PMA is not connected to PMD.

SuggestedRemedy

Replace with:
"Upon PMA reset, disconnection of the PCS from the PMD or ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.3** *P* **78** *L* **30** # 36

Gilarranz, Alejandra KDPOF

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

Figure 114-42. Noise variance is represented in figure as nd, but in subclause text it is represented as n_d (d is a subindex of n). This error is found in figure more than once.

SuggestedRemedy

Replace noise variance representation in figure by n_d.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.3** *P* **79** *L* **11** # 343

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Subclauses 114.3.3 and 114.3.5 are identical in content.
In anyway, according to the Functional Block Diagram of 1000BASE-H, the clock frequency requirements and/or tolerance should be specified outside PMA sublayer.

SuggestedRemedy

Eliminate 114.3.5.

Move 114.3.3 to 114.9.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.3** *P* **79** *L* **13** # 137

Tapia, Pablo KDPOF

Comment Type **T** *Comment Status* **X**

Aren't 114.3.3 and 114.3.5 redundant?

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.3** *P* **79** *L* **13** # 37

Gilarranz, Alejandra KDPOF

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

The text of subclauses 114.3.3 and 114.3.5 is identical.

SuggestedRemedy

Write a unique subclause or make some differences in text.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.5** *P* **79** *L* **50** # 171

SÃ¡nchez de La Lama, Carlos KDPOF

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

No new information on this subclause. Same text as 114.3.3.

SuggestedRemedy

Remove subclause 114.3.5

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4** *P* **80** *L* **1** # 305

Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Description of clause 114.4 is not clear, and lacks consistency. Moreover the correspondence of status bits values and the status of the outstanding OAM messages, which is included in this clause, should be included in clause 45, as it is usefull for the usage of the OAM channel, but is not needed for the implementation.

SuggestedRemedy

Replace clause 114.4 by the text in the attached document "ortiz_gepof_c45_114_proposal_v1.0.docx"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.1** *P* **80** *L* **22** # 98

Tapia, Pablo KDPOF

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

Change:
"OAM message"

SuggestedRemedy

To:
"OAM messages"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.1** *P* **80** *L* **22** # 1

Gilarranz, Alejandra KDPOF

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

Singular used instead of plural in text. "OAM message are written ..."

SuggestedRemedy

Replace by text: "OAM messages are written..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.1** *P* **80** *L* **23** # 38

Gilarranz, Alejandra KDPOF

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

Bad reference to "Table 114.4.2.1".

SuggestedRemedy

Replace text by: ".. the message is copied to the corresponding fields of the PHD as described in 114.4.2.1.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.1** *P* **80** *L* **24** # 2

Gilarranz, Alejandra KDPOF

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

Missing full-stop at the end of the sentence.

SuggestedRemedy

Add missing full-stop.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.1** *P* **80** *L* **27** # 99

Tapia, Pablo KDPOF

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

Change:
"and ME of the status"

SuggestedRemedy

To:
"and ME the status"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.1** *P* **80** *L* **32** # 100

Tapia, Pablo KDPOF

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

Change:
"All transmitted PHDs includes..."

SuggestedRemedy

To:
"All transmitted PHDs include..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.2** *P* **80** *L* **41** # 101

Tapia, Pablo KDPOF

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

The end of the sentence "to store a received" seems incomplete. Review and rewrite.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.2** *P* **80** *L* **41** # 39

Gilarranz, Alejandra KDPOF

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

Wrong sentence end: "... and MDIO receive registers to store a received."

SuggestedRemedy

Replace text by: ".. and MDIO receive registers to store messages in reception."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.2** *P* **80** *L* **42** # 3

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Wrong reference in text "...four control bits (TXREQ, TXMSGT, PHYT an MERT) in the OAM TX control register."

SuggestedRemedy

Replace reference by: "... four control bits (TXREQ, TXMSGT, PHYT an MERT) in the TXOAM_CTRL register."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.2.1** *P* **80** *L* **52** # 102

Tapia, Pablo KDPOF

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

Rewrite:
"Step2: Write the 128 user data bits of the OAM message into OAM_DATA1 register through OAM_DATA8 transmit registers"

SuggestedRemedy

To:
"Step2: Write the 128 user data bits of the OAM message into OAM_DATA transmit registers (from OAM_DATA1 to OAM_DATA8)"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.2.1** *P* **81** *L* **1** # 40

Gilarranz, Alejandra KDPOF

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

Wrong register name TX_OAM_CTRL.

SuggestedRemedy

Replace register name in text by: "TXOAM_CTRL".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.2.1** *P* **81** *L* **5** # 4

Gilarranz, Alejandra KDPOF

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

Wrong register bit name TX_REQ.

SuggestedRemedy

Replace register bit name in text by: "TXREQ".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.2.1** *P* **81** *L* **6** # 5

Gilarranz, Alejandra KDPOF

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

Wrong register field name OAM_DATA1 and OAM_DATAx in sentence.

SuggestedRemedy

Replace register field name in text by: "TXOAM_DATA1" and "TXOAM_DATAx".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.3** *P* **81** *L* **47** # 41

Gilarranz, Alejandra KDPOF

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

Missing blank in "If RXVALis one ..."

SuggestedRemedy

Replace text by "If RXVAL is one ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.3** *P* **81** *L* **49** # 6

Gilarranz, Alejandra KDPOF

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

Wrong register field name OAM_DATA8 in sentence.
In the rest of paragraphs in section 114.4.3, OAM_DATAx and OAMDATAx names appear instead of RXOAM_DATAx.

SuggestedRemedy

Replace register field name in text by: "RXOAM_DATA8".
Do a similar correction in the rest of 114.4.3 paragraphs.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.3** *P* **82** *L* **1** # 68

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Table 114-3. All cells related to "Message K Status" and "Message K-1 Status" have the same text.

SuggestedRemedy

Replace text in "Message K Status" and "Message K-1 Status" columns by:

Message K Status	Message K-1 Status
Sent. ACK by remote PHY. ACK by remote ME.	Sent. Ack by remote PHY. Ack by remote ME.
Sent. No ACK by remote PHY. No ACK by remote ME.	Sent. Ack by remote PHY. Ack by remote ME.
Sent. ACK by remote PHY. No ACK by remote ME.	Sent. Ack by remote PHY. Ack by remote ME.
Sent. No ACK by remote PHY. No ACK by remote ME.	Sent. Ack by remote PHY. No Ack by remote ME.
Sent. ACK by remote PHY. ACK by remote ME.	Sent. Ack by remote PHY. Ack by remote ME.
Sent. No ACK by remote PHY. No ACK by remote ME.	Sent. Ack by remote PHY. Ack by remote ME.
Sent. ACK by remote PHY. No ACK by remote ME.	Sent. Ack by remote PHY. Ack by remote ME.
Sent. No ACK by remote PHY. No ACK by remote ME.	Sent. Ack by remote PHY. No Ack by remote ME.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.3** *P* **82** *L* **41** # 42
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Missing reference for the receive OAM state diagram.

SuggestedRemedy
Replace text by: "... as specified by the PHY OAM Rx control state diagram in Figure 114-44."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **82** *L* **45** # 43
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Unnecesary full-stop in title.

SuggestedRemedy
Remove full-stop from title.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **82** *L* **49** # 172
SÃ¡nchez de La Lama, Carlos KDPOF

Comment Type **E** *Comment Status* **X**
Text "communicat3.503.50ion link" is most likely a typo.

SuggestedRemedy
Change text to "communication link".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **82** *L* **50** # 103
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
Typing error in "communicat3.503.50ion link"

SuggestedRemedy
"communication link"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **82** *L* **50** # 7
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Typing error in word "communicat3.503.50ion"

SuggestedRemedy
Replace word by "communication"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **83** *L* **10** # 104
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
Change:
"are transmitted"

SuggestedRemedy
To:
"to be transmitted"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **83** *L* **3** # 8
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Wrong word "PHY" found in text: "... shall update the value of PHY MERT of the TXOAM_CTRL register ..."

SuggestedRemedy
Replace text by : "... shall update the value of bit MERT of the TXOAM_CTRL register ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **83** *L* **9** # 9

Gilarranz, Alejandra KDPOF

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

Wrong register field name OAM_DATAx in sentence.

SuggestedRemedy

Replace register field name in text by: "TXOAM_DATAx".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **84** *L* **30** # 144

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

txr_oamudat shall also contain TXOAM_HDR.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.1** *P* **86** *L* **39** # 48

Gilarranz, Alejandra KDPOF

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

Typing error. "This bits indicates the presence of ..."

SuggestedRemedy

Replace text by: "This bit indicates the presence of ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **19** # 71

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Wrong sentence: "Moreover, transmit bits set to received OAM values values shal l also be set to 0."

SuggestedRemedy

Replace text by "Moreover, transmit bits related to received OAM values shall also be set to 0."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **24** # 132

Tapia, Pablo KDPOF

Comment Type **ER** *Comment Status* **X**

Shouldn't it be RXOAM_CTRL instead of TXOAM_CTRL?

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **24** # 69

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Uncorrect register reference in text. "... the field PHD.OAM.MSGT of a correctly received PHD block takes a value that is different from that of the bit TXOAM_CTRL bit MSGT."

SuggestedRemedy

Replace text by: "... the field PHD.OAM.MSGT of a correctly received PHD block takes a value that is different from that of the RXOAM_CTRL bit RXMSGT."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **24** # 105

Tapia, Pablo KDPOF

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

Redundant "bit" in:
"of the bit TXOAM_CTRL bit MSGT"

SuggestedRemedy

Change to:
"of the TXOAM_CTRL bit MSGT"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **29** # 106

Tapia, Pablo KDPOF

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

"the received PHD are and stored..."

SuggestedRemedy

"the received PHD are stored..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **29** # 70

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Extra word "and" found in text: "... the content of the fields PHD.OAM.DATAx and PHD.OAM.HDR of the received PHD are and stored in the corresponding OAM_DATAx receive registers, and the 12-bit RXOAM_HDR of RXOAM_CTRL is also valid."
OAM_DATAx used instead of RXOAM_DATAx in the same sentence.

SuggestedRemedy

Replace text by: "... the contents of the fields PHD.OAM.DATAx and PHD.OAM.HDR of the received PHD are stored in the corresponding RXOAM_DATAx registers and RXOAM_HDR field of RXOAM_CTRL register."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **30** # 107

Tapia, Pablo KDPOF

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

Redundant “is also valid”. Remove.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **40** # 10

Gilarranz, Alejandra KDPOF

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

Wrong register name "OAM Rx OAMDATA8" used in description.

SuggestedRemedy

Replace register name by "RXOAM_DATA8".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **40** # 112

Tapia, Pablo KDPOF

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

Change:
"(read_OAMDATA8_event=TRUE)"

SuggestedRemedy

To:
"(read_RXOAM_DATA8_event=TRUE)"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **41** # 44

Gilarranz, Alejandra KDPOF

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

Unfinished sentence: "It is critical that this is the last"

SuggestedRemedy

Remove sentence.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **41** # 108

Tapia, Pablo KDPOF

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

Incomplete sentence:
"It is critical that this is the last"

SuggestedRemedy

Complete:
"...so it is critical that OAMDATA8 is the last read data in order to ensure correct behavior of the protocol"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **43** # 45

Gilarranz, Alejandra KDPOF

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

Wrong event name "read_RxTBD8_event=TRUE"

SuggestedRemedy

Modify event name by: "read_OAMDATA8_event=TRUE"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **85** *L* **43** # 109

Tapia, Pablo KDPOF

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

"(read_RxTBD8_event = TRUE)"

SuggestedRemedy

"(read_RXOAM_DATA8_event = TRUE)"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **86** *L* **1** # 46

Gilarranz, Alejandra KDPOF

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

Error in sentence: "The local PHY then again waits for a new message ..."

SuggestedRemedy

Replace text by "Then the local PHY waits again for a new message..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **86** *L* **1** # 110

Tapia, Pablo KDPOF

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

Change:
"The local PHY then again waits for a new..."

SuggestedRemedy

To:
Then, the local PHY waits again for a new..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **86** *L* **37** # 47

Gilarranz, Alejandra KDPOF

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

Error in writing: "The variables used in the state diagram 114-44 that have not been previously introduced as follows:"

SuggestedRemedy

Replace text by "The variables used in the state diagram 114-44 that have not been previously introduced are defined as follows:"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **86** *L* **39** # 111

Tapia, Pablo KDPOF

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

Change:
"This bits indicates..."

SuggestedRemedy

To:
"This bit indicates..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.4.2** *P* **86** *L* **49** # 145

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

rxr_oamudat shall also contain RXOAM_HDR.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **87** *L* **26** # 361

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

No fully accurate description.

SuggestedRemedy

Replace with:
"Each PHY that supports EEE and where EEE is enabled shall advertise its capability when it is connected ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **87** *L* **27** # 113

Tapia, Pablo KDPOF

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

"indicates to link partner"

SuggestedRemedy

"indicates to the link partner"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **87** *L* **34** # 278

Mendo, Carmen KDPOF

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

Typo: " .. allowing carrying the LPI signaling ..".

SuggestedRemedy

Should probably read: ".. carrying the LPI signaling .." (remove "allowing").

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **87** *L* **41** # 380

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

No optical power injected by the PMD TX should be a valid specification.
"(or minimal)" is not needed. Quiet periods are detected based on different method that measuring the optical power at TP3.
There is no compatibility requirement for LPI in terms of optical power.
C/115 should be modified as well accordingly.

Also affect to service interface primitives required to any PMD at P88, L30.

SuggestedRemedy

P87, L87, Eliminate:
"(or minimal)".

P88, L30, Replace with:
"PMD_TXPWR.request(tx_pwr): this primitive is generated by the PCS transmitter to request either switching off the optical output power during quiet periods in LPI mode, or swithing on the optical power for refresh signals transmission in LPI mode or for normal operation."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **87** *L* **51** # 381

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

The additional number of zero value symbols that are prefixed and postfixed to pilot and header sub-blocks need to be increased to be compatible with requirements for sleep and wake of PMD RX as presented by Avago in Pittsburgh (see "Avago - Sleep_wakeup_timing_of_FOT_Rx_overTemp.pdf") and sent to GEPOF reflector at May 26th.

130, instead of 80, extra zero symbols for prefix and for postfix are needed. See attached file "perezaranda_GEPOF_1_0715.pdf" for rational behind that.

Improvements in description are required to make comprehensive the text.

SuggestedRemedy

"The PHY transmitter shall indicate to its link partner it is entering a quiet period by the transmission of 146 contiguous zero value symbols. The normal 16 zeroes postfixed to the pilot or physical header sub-block are appended by 130 additional zeroes intended to be used in the link partner by the PCS receive function for detection of the quiet period and also by the PMD receive function to save the state of circuitry and switch off the opto-electrical signal translation before the optical power is switched off by the transmitter.

The transmitter shall then enter its quiet state until 130 symbol times before the end of the payload data sub-block period. The transmitter shall insert 130 zero value symbols before the transmission of the corresponding pilot or physical header sub-block (including its 16 prefixed zeroes) to prepare the link partner for reception of refresh signals."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **88** *L* **1** # 450

Ortiz Rojo, David KDPOF

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

Figure 114-45:
During normal operation normal interframe or ethernet packets are allowed. However in the figure, at the top-left corner only normal interframe is shown. This should be changed to normal interframe or ethernet packets.

SuggestedRemedy

Replace 'normal interframe' by 'normal interframe or ethernet packets' at the top-left corner of the picture.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **88** *L* **34** # 382

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

P88, L32: power consumption is not an specification for compatibility.

P88, L37: Additional prvimitive is needed for signal detect inhibition in PMD

SuggestedRemedy

L34, Eliminate "compatible with LPI mode".

L37, Add:
PMD_SDINH.request(sd_inh): this primitive is generated by the PCS receiver to inhibit the PMD signal detect function when the link has been established, taking the PCS receive function the responsibility to determine the quality of the signal and avoiding incorrrect signal detection by PMD when PHY receiver is operating in LPI mode.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5** *P* **89** *L* **1** # 383

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

State diagrams that govern generation of signals to control PMD have to be modified to include signal detect inhibition.

lpi_tx/rx_pwr: are not clear in description. The should be variables indicating the state of PCS TX and RX but not PMD.

SuggestedRemedy

Replace the 2 state diagrams with the ones attached in file "perezaranda_GEPOF_1_0715.pdf".

PMD control state variables
tx_pwr
Indicates to the PMD transmitter to generate, or not, signal at the MDI.
Values:ON: the PMD generates signal at the MDI.
OFF: the PMD does not generate signal at the MDI, and may reduce power consumption.

rx_pwr
Indicates to the PMD receive function to ignore, or not, signal at the MDI.
Values:ON: the PMD receive function receives signal at MDI and transfer to the PCS receive function.
OFF: the PMD receive function ignores signal at the MDI, saves the internal stateof the circuitry, and may reduce power consumption.

sd_inh
Indicates to the PMD signal detect function to be or not inhibited.
Values:TRUE: the PMD signal detect function is inhibited.
OFF: the PMD signal detect function operates normally.

pcs_tx
Signal internally generated by the PCS transmitter during LPI operation
Values:ON: enable PCS transmit (refresh).
OFF: disable PCS transmit (quiet).

pcs_rx
Signal internally generated by PCS receive function during LPI operation
Values:ON: enable PCS receive (refresh).
OFF: disable PCS receive (quiet).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.1** *P* **90** *L* **4** # 114

Tapia, Pablo KDPOF

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

"Indicates to the PMD transmitter is to generate, or not, signal at the MDI."

SuggestedRemedy

"Indicates to the PMD transmitter to generate, or not, signal at the MDI."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.2** *P* **90** *L* **36** # 384

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

The additional number of zero value symbols that are prefixed and postfixed to pilot and header sub-blocks need to be increased to be compatible with requirements for sleep and wake of PMD RX as presented by Avago in Pittsburgh (see "Avago - Sleep_wakeup_timing_of_FOT_Rx_overTemp.pdf") and sent to GEPOF reflector at May 26th.

130, instead of 80, extra zero symbols for prefix and for postfix are needed. See attached file "perezaranda_GEPOF_1_0715.pdf" for rational behind that.

SuggestedRemedy

Modify L36 as:
- transmission of 130 zero symbols, to indicate entry to quiet;
- no output optical power during 7744 symbols (quiet);
- transmission of 130 zero symbols, to prepare the reception of pilot and physical header sub-blocks used as refresh signals

Replace "80" with "130" in L 53.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.2** *P* **90** *L* **47** # 279

Mendo, Carmen KDPOF

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

Expression: "Therefore, the time alignment of transmitted PDBs .. the LPI quiet mode."

SuggestedRemedy

Suggest rewording: "Therefore, the time alignment of transmitted PDBs relative to FEC codewords when the PHY re-enters normal operation shall be exactly the same as it would have been in the absence of an LPI interval."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.3** *P* **91** *L* **4** # 344

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

PHY type should be 1000BASE-H in the title of sub-clause.
Also for 114.5.4, in L25.

SuggestedRemedy

Replace 1000BASE-RH by 1000BASE-H, in both cases

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.4** *P* **91** *L* **34** # 385

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Timing has to be modified accoridng to requirements for sleep and wake of PMD RX as presented by Avago in Pittsburgh (see "Avago - sleep_wakeup_timing_of_FOT_Rx_overTemp.pdf") sent to GEPOF reflector at May 26th.

130, instead of 80, extra zero symbols for prefix and for postfix of pilot and physical header sub-blocks are needed. See attached file "perezaranda_GEPOF_1_0715.pdf" for rational behind that.

SuggestedRemedy

Replace L34 with:
"Tq (us) = (NCW * NSYM_CW – NSYM_ZERO) / Fs = (8*988 - 260)/325 = 23.52 us"

Replace L43 with:
"Tr (us) = (NSYM + NSYM_ZERO) / Fs = (16 + 128 + 16 + 260)/325 = 1.30 us"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.6** *P* **91** *L* **51** # 387
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**
Errors in equations and text.

SuggestedRemedy
Correct text and equations according to attached file "perezaranda_GEPOF_3_0715"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.6.1** *P* **92** *L* **14** # 72
Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**
Wrong first value in set "{M+1,-M+3,...,M-3,M-1}"

SuggestedRemedy
Replace text by: "{-M+1,-M+3,...,M-3,M-1}"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.6.1** *P* **92** *L* **14** # 280
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Typo: ".. from the set {M+1, -M+3 ..".

SuggestedRemedy
Missing minus sign, should read: ".. from the set {-M+1, -M+3 ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.6.1** *P* **92** *L* **7** # 84
Gilarranz, Alejandra KDPOF

Comment Type **TR** *Comment Status* **X**
Equation 114-2. Subtraction operation is not correct in equation

x(n)= SF(n)* F_M(a(n)-SUM(...))
= SF(n)* (a(n)+2M*m(n)-SUM(...))

SuggestedRemedy
Replace equation by
x(n)= SF(n)* F_M(a(n)+SUM(...))
= SF(n)* (a(n)+2M*m(n)+SUM(...))

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7** *P* **93** *L* **8** # 433
Pérez-Aranda, Rubén KDPOF

Comment Type **E** *Comment Status* **X**
When bits are enumerated, follow capitalization of C/45 and provide the bit address for every bit.

SuggestedRemedy
The PMA and PMD use some of the generic control bits of register 1 as specified in 45.2.1.1.3:
- Reset (1.0.15)
- Low power (1.0.11)
- Speed selection (1.0.13,1.0.6, 1.0.5:2)

Status bit 1.1.1 is used to advertise EEE capability.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7** *P* **93** *L* **9** # 49
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Missing parenthesis at the end of the sentence.

SuggestedRemedy
Add missing parenthesis.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8** *P* **93** *L* **26** # 50
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Wrong word used in text "... measurement of bit error ratio of the link..."

SuggestedRemedy
Replace text by: "... measurement of bit error rate of the link..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8.1** *P* **93** *L* **37** # 389
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**
2 contiguous contradictory sentences.

SuggestedRemedy
Replace with:
Test mode 1 only directly affects the transmitter of the local PHY. The PHY receiver may operate in normal or test mode. The PHY receiver shall use parameters received from the link partner in the PHD to configure accordingly.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8.1** *P* **93** *L* **44** # 115
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
"In response a change"

SuggestedRemedy
"In response to a change"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8.1** *P* **94** *L* **4** # 281
Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**
Confusing: ".. configuring the input to symbol scrambler ..".

SuggestedRemedy
Is this "to binary scrambler"?

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8.2** *P* **92** *L* **9** # 282
Mendo, Carmen KDPOF

Comment Type **E** *Comment Status* **X**
Layout: minus sign separate from value.

SuggestedRemedy
Keep minus sign on l.9 and l.15 in the same line as the value.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8.5** *P* **94** *L* **38** # 51
Gilarranz, Alejandra KDPOF

Comment Type **E** *Comment Status* **X**
Spureous sentence: "Ruben comment MDIO_interfaces"

SuggestedRemedy
Remove sentence.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8.5** *P* **94** *L* **38** # 117
Tapia, Pablo KDPOF

Comment Type **E** *Comment Status* **X**
Remove: “Ruben comment MDIO_ interfaces”

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8.5** *P* **94** *L* **9** # 451

Ortiz Rojo, David KDPOF

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

Misleading, in previous test modes the number before the {} symbol indication represented the number of symbols, not the type of symbols.

SuggestedRemedy

Replace "shall continually transmit zero ({0}) symbols ..." by
"shall continously transmit {0} symbols ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.9** *P* **94** *L* **43** # 116

Tapia, Pablo KDPOF

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

"also demands that there be an upper bound..."

SuggestedRemedy

"also demands an upper bound..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.9** *P* **94** *L* **53** # 452

Ortiz Rojo, David KDPOF

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

Sentence is not clear.

SuggestedRemedy

Replace the sentence by:
"The transmit and receive delays are not independently testable in a system implementation, and only the total delay from GMII to GMII is testable."

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.10** *P* **121** *L* **26** # 462

Takahashi, Satoshi POF promotion

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

The IEC document number in the column ?Value/Comment? is not correct.

SuggestedRemedy

Change existing sentence to "Duplex cable with multimode optical fiber sub-category A4a.2 as specified in IEC 60793-2-40"

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.2** *P* **103** *L* **26** # 390

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Add new primitive to the list intended to be used for signal detect inhibition, required for LPI support in PMD.
The main reason behind this comment is that the state diagram that defines the signal detect function in Page 108 is very difficult to be implemented because typically the PMD is going to be a pure analog circuit.

This new primitive has to be also considered in:
- Clause 114.5 (LPI), also proposed remedy and state diagrams modifications
- Clause 114.1.5, functional block diagram
- State diagram in Clause 115.

SuggestedRemedy

Add:
PMD_SDINH.request after PMD_RXDETECT.indication.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.2** *P* **105** *L* **44** # 395

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Add primitive definition for SD inhibition.

SuggestedRemedy

PMD_SDINH.request
This primitive is generated to request the PMD signal detect function to transition between being able to detect the received optical signals and an inhibition state.

Semantics of the primitive
PMD_SDINH.request(sd_inh)
The sd_inh parameter can take one of the two values: TRUE or FALSE
TRUE: The PMD Signal detect function is inhibited.
OFF: The PMD Signal detect function responds to receive MDI optical signals.

When generated
The PMD_SDINH.request(sd_inh) is continuously generated by the PCS receive function and value depends on the link status as specified by the state diagram of figure 114-47 (see 114.5).

Effect of receipt
PMD_SDINH.request(FALSE) requests to PMD signal detect function to operate normally.
PMD_SDINH.request(TRUE) requests the PMD signal detect function to inhibit its functionality providing the primitive signal_detect = OK, independently of optical signal level received at MDI.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.2.3** *P* **104** *L* **15** # 391

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Minimum PMD optical output power compatible with Low Power Idle (LPI) mode is not defined in C/115. Moreover, it is not required. Specification should be what in reality is going to be done: no optical power injected to fiber during quiet periods.
Other topic is that a residual optical power may be coupled at TP2 and has to be regulated by specification, like LOPoff, which should be specifically stated.

SuggestedRemedy

P104, L15, Replace with:
This primitive is used for optional EEE capability. The primitive is generated to request no optical output power during quiet priods of LPI mode, or to request optical signal being generated at MDI during refresh periods of LPI mode or when normal-interframe operation of the PHY transmitter. When tx_pwr = OFF, the analog tx_signal is ignored.

P104, L36, Replace with:
PMD_TXPWR.request(OFF) requests the PMD transmit function to produce no optical output power, being the analog tx_signal ignored.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.2.3.2** *P* **104** *L* **31** # 392

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Wrong description. Unaccurate. This primitive is continuously generated.

SuggestedRemedy

The PMD_TXPWR.request(tx_pwr) is continuously generated by the PCS transmit function and value depends on the operation mode as specified by the state diagram of figure 114-46 (see 114.5).

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.2.4.2** *P* **105** *L* **5** # 393

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Wrong description. Unaccurate. This primitive is continuously generated.

SuggestedRemedy

The PMD_RXPWR.request(rx_pwr) is continuously generated by the PCS receive function and value depends on the operation mode as specified by the state diagram of figure 114-47 (see 114.5).

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.2.4.3** *P* **105** *L* **11** # 394

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Signal detect function is going to be controlled with additional primitive PMD_SDINH.request.

SuggestedRemedy

P105, L11, Eliminate sentence:
"It also forces the ..."

P105, L29 - 31, Replace with:
"When sd_inh = TRUE the signal detect function is inhibited and this primitive always provide signal_detect = OK, independently of optical signal level received at MDI.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.2.5.1** *P* **105** *L* **33** # 453

Ortiz Rojo, David KDPOF

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

Sentence not clear.

SuggestedRemedy

Replace it by:
"signal_detect = OK does not guarantee that rx_signal provides high enough quality to allow the PHY to establish the link...."

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.1** *P* **105** *L* **51** # 183

Kobayashi, Shingeru TE Connectivity

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

In 1.5 Abbreviations, "plastic optical fiber" is defined as POF, however "plastic optical fiber" is still indicated in the line and others.

SuggestedRemedy

Please replace "plastic optical fiber" to "POF"

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.1** *P* **106** *L* **4** # 175

Kobayashi, Shingeru TE Connectivity

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

Double periods in the line.

SuggestedRemedy

Please remove one.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.1** *P* **106** *L* **6** # 347

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

PMD block diagram of figure 115-1 has to include new PMD_SDINH.request service primitive.

SuggestedRemedy

Modify PMD block diagram of figure 115-1 to include new PMD_SDINH.request service primitive in the Optical PMD Receiver box.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.2** *P* **106** *L* **33** # 182

Kobayashi, Shingeru — TE Connectivity

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

Type B, C3 and C4 are explained as " ... no inline connection" But, in the explanations in "Objectives_GEPOF_2_0714.pdf" shows "... no POF connections"

SuggestedRemedy

It would be fine if it is used the same explanation in singular form or plural form.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.2** *P* **106** *L* **41** # 457

Yasuhiro, Hyakutake — Adamant Co., Ltd.

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

Same topology cells has rule.

SuggestedRemedy

Same topology cell combine one article.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.3** *P* **107** *L* **19** # 458

Yasuhiro, Hyakutake — Adamant Co., Ltd.

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

The (LOP) describing definiton is not correct.
the average optical launch power(LOP).

SuggestedRemedy

the average Launch Optical Power(LOP).

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.3** *P* **107** *L* **35** # 435

Pérez-Aranda, Rubén — KDPOF

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

Incomplete sentence.

SuggestedRemedy

The transition times from receipt of this primitive until it takes effect at the MDI are specified in 115.4.1

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.3** *P* **107** *L* **5** # 434

Pérez-Aranda, Rubén — KDPOF

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

EQ 115-1: p1 and p0 should be capital, to agree with text.

SuggestedRemedy

Capitalize p0 and p1

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.4** *P* **107** *L* **52** # 309

Pérez-Aranda, Rubén — KDPOF

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

Incomplete sentence.

SuggestedRemedy

The transition times from receipt of PMD_RXPWR.request primitive until it takes effect in operation of the PMD receive function are specified in 115.4.2.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.5** *P* **108** *L* **26** # 176

Kobayashi, Shingeru TE Connectivity

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

Double periods in the line.

SuggestedRemedy

Please remove one.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.5** *P* **108** *L* **30** # 396

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

To modify the state driagram to include new signal detect function inhibition, eliminating the timer. Modify description and the state variables definition accordingly.

SuggestedRemedy

Replace figure 115-2 with the one in attached file "perezaranda_GEPOF_1_0715", slide number 19.

Replace description in P109, L1, with:
Upon PMD device power on (power_on = TRUE), the PMD signal detect function transitions to PMDDET_FAIL indicating signal_detect = FAIL if sd_inh = FALSE, that indicates the functionality is not inhibited. When receive optical power at MDI is higher than a threshold of -29 dBm, the state diagram transitions to indicate signal_detect = OK (PMDDET_OK state). Once in this state, receive optical power at the MDI has to decrease below -35 dBm to cause transition to the PMDDET_FAIL state. These separated thresholds provide hysteresis in the signal_detect indication.

When sd_inh = TRUE, the PMD signal detect is inhibited, indicating signal_detect = OK in any case when power_on = TRUE.

P109, L24, Eliminate sub-clause 115.3.5.2 PMD signal detect timers.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.3.5.1** *P* **109** *L* **15** # 348

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Values of power_on variable do not match with state diagram of figure 115-2

SuggestedRemedy

P109, L15, Replace with:
power_on
Indicates the power state of the PMD. The state diagram takes the open-ended power_on = FALSE branch.
Values: TRUE: power to PMD device is provided and circuit is operative.
FALSE: the PMD is power off.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.1** *P* **109** *L* **40** # 177

Kobayashi, Shingeru TE Connectivity

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

t of "type ..." in table 115-3 is small letter in 115-3 regardless of stated "Type ..." in Table 115-1. Table 115-4 is also the same.

SuggestedRemedy

t of "type ..." in table 115-3 and others should be capital letter.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.1** *P* **109** *L* **54** # 463

Takahashi, Satoshi POF promotion

Comment Type **T** *Comment Status* **X**

Table 115-3:
Maximum center wavelength shall be 665 nm, as discussed at the last PMD ad-hoc meeting.

SuggestedRemedy

Change "670" to "665"

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.1** *P* **109** *L* **54** # 178

Kobayashi, Shingeru — TE Connectivity

Comment Type **T** *Comment Status* **X**

Center wavelength, max, is shown 670 nm in Table 115-3. But it might be changed to 665 nm or other because of the narrow wavelength window. Please refer to the file of "20th May - 802.3bv-AdHoc_memo.pdf"

SuggestedRemedy

Please check it again and chose a right value.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.1** *P* **109** *L* **54** # 437

Götzfried, Volker — Avago Technologies Fi

Comment Type **T** *Comment Status* **X**

The minimum value of the 'center wavelength' cannot be increased and shall remain at 635 nm

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.1** *P* **110** *L* **15** # 438

Götzfried, Volker — Avago Technologies Fi

Comment Type **T** *Comment Status* **X**

Values for transition times are TBD

SuggestedRemedy

Proposal of a maximum sleep transition time is 200 ns
Proposal of a maximum wake transition time is 1500 ns

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.1** *P* **110** *L* **15** # 397

Pérez-Aranda, Rubén — KDPOF

Comment Type **TR** *Comment Status* **X**

Add max. values for t_sleep and t_wake.

SuggestedRemedy

t_sleep,max = 100 ns
t_wake,max = 1400 ns

See attached file "perezaranda_GEPOF_1_0715" for rational behind timing requirements of PMD for LPI operation.

See also file "Avago-Sleep_wakeup_timing_of_AFBR-59F3Z_overTemp" and "IEEE802.3bv_1000Base-RH_FOT_Sleep&wakeup_timing_diagrams"

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.1** *P* **110** *L* **19** # 398

Pérez-Aranda, Rubén — KDPOF

Comment Type **TR** *Comment Status* **X**

LOP and LOPoff should be explained and their relation with PMD_TXPWR.request primitive.

SuggestedRemedy

Add following text:
Average launch optical power depends on the operation mode of the PHY transmitter (normal interframe or LPI). LOP parameter is defined as the average launching optical power at TP2 when PMD transmit function receives primitive PMD_TXPWR.request(ON) (normal operation and LPI refresh signals). LOPoff parameter corresponds to the optical power when PMD transmit function receives primitive PMD_TXPWR.request(OFF) (LPI quiet periods). LOPoff maximum vaue is compatible with the PMD signal detect function specified in 115.3.5.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.2** *P* **110** *L* **43** # 439

Götzfried, Volker — Avago Technologies Fi

Comment Type **T** *Comment Status* **X**

Values for transition times are TBD

SuggestedRemedy

Proposal of a maximum quiet transition time is 200 ns
Proposal of a maximum wake transition time is 450 ns

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.2** *P* **110** *L* **43** # 399

Pérez-Aranda, Rubén — KDPOF

Comment Type **TR** *Comment Status* **X**

Add max. values for t_sleep and t_wake.

SuggestedRemedy

t_sleep,max = 200 ns
t_wake,max = 400 ns

See attached file "perezaranda_GEPOF_1_0715" for rational behind timing requirements of PMD for LPI operation.

See also file "Avago-Sleep_wakeup_timing_of_AFBR-59F3Z_overTemp"

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.4.2** *P* **110** *L* **50** # 179

Kobayashi, Shingeru — TE Connectivity

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

it is shown "1000BASE-H ...". Isn't it "1000BASE-RH"?

SuggestedRemedy

Please check it and use right words.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.1** *P* **111** *L* **39** # 349

Pérez-Aranda, Rubén — KDPOF

Comment Type **ER** *Comment Status* **X**

Use correct name to reference to TIA standard.
Equation should not be provided because it is already included in referred std.

SuggestedRemedy

P111, L39, Replace with:
"TIA-455-127-A".

Eliminate from P111, L45 to P112, L2.

P112, L6, Replace with:
"TIA-455-127-A".

Eliminate from P112, L10 to L21.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.2** *P* **112** *L* **7** # 440

Götzfried, Volker — Avago Technologies Fi

Comment Type **T** *Comment Status* **X**

The mentioned standard ‘EIA/TIA standard FOTP-127/61.3, 1991’ shall be replaced by ‘IEC 61280-1-3 Edition 2.0 2010-03’

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.3** *P* **112** *L* **25** # 310

Pérez-Aranda, Rubén — KDPOF

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

Consider rephrasing

SuggestedRemedy

The Extinction Ratio (ER) shall be obtained by measurement in the time domain. ER shall be calculated from the measurements of the maximum optical power (P1) and the minimum optical power (P0) (defined in dBm), as:

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.4** *P* **112** *L* **35** # 311

Pérez-Aranda, Rubén KDPOF

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

Consider change the sub-clause title to be agree with defined parameter in 115.4.1.

SuggestedRemedy

Average Launch Optical Power (LOP) measurement

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.4** *P* **112** *L* **36** # 459

Yasuhiro, Hyakutake Adamant Co., Ltd.

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

The (LOP) describing definiton is not correct.
Average Optical Power(LOP) measurement

SuggestedRemedy

Launch Optical Power(LOP) measurement

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.5** *P* **112** *L* **51** # 400

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Definitions of rise and fall times are not correct, because they do not take into account the ER of the transmit signal.

SuggestedRemedy

Replace with:
Rise time shall be measured as the time to transition the optical signal from (0.1*P1 + 0.9*P0) to (0.1*P0 + 0.9*P1), being P0 and P1 as defined in 115.5.3.
The fall time shall be measured as the time to transition the optical signal from (0.1*P0 + 0.9*P1) to (0.1*P1 + 0.9*P0).

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.9** *P* **114** *L* **9** # 466

Takahashi, Satoshi POF promotion

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

The IEC document number is 61300-3-53

SuggestedRemedy

Change "61300-3-54" to "61300-3-53"

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.9** *P* **114** *L* **9** # 460

Yasuhiro, Hyakutake Adamant Co., Ltd.

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

Reference EAF measurement method IEC document number is not correct.
IEC 61300-3-54

SuggestedRemedy

IEC 61300-3-53

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.9** *P* **115** *L* **1** # 464

Takahashi, Satoshi POF promotion

Comment Type **T** *Comment Status* **X**

i) Only the lower bound limit that yields the worst performance is sufficient to be specified.
ii) The same EAF can be applied for all link types at TP3.

SuggestedRemedy

Change existing sentence to "The MPD measured per EAF at TP2 or TP3 shall be upper than the lower bound limits defined in Figure 115-3 and 115-4."

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.9** *P* **115** *L* **1** # 401

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

EAF sepcifications have to be provided as tables, only defining the lower bound limit as agreed in PMD ad-hoc group. The upper bound limit is not required because as higher is the EAF, better bandwidth and lower attenuation will be obtained at TP3.

SuggestedRemedy

Add table 115-6, with the content provided in the attached file "perezaranda_GEPOF_4_0715", based on measurements of Avago FOT reported in "IEEE802.3bv_1000Base-RH_EAF_results"

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.9** *P* **115** *L* **2** # 180

Kobayashi, Shingeru TE Connectivity

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

Double periods in the line.

SuggestedRemedy

Please remove one.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.5.9** *P* **115** *L* **29** # 465

Takahashi, Satoshi POF promotion

Comment Type **T** *Comment Status* **X**

Lines 29 to 44:
i) Only the lower bound limit that yields the worst performance is sufficient to be specified.
ii) The same EAF can be applied for all link types at TP3.

SuggestedRemedy

i) Change "Figure 115-4 - EAF template specification at TP3. Type A, B"
to "Figure 115-4 - EAF template specification at TP3. Any link type"
ii) Delete "Figure 115-5 - EAF template ....." and "Figure 115-6 - EAF template .....".

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.8** *P* **117** *L* # 461

Yuki, Hayato

Comment Type **T** *Comment Status* **X**

This comment is added by the comment editor to the database of D1.1 revision to reflect the comments send by Yuki-san at 3rd July 2015 in form of attachment "Comments to P8023.bv_D1.1(YUKI).docx". The understanding by comment editor is that the text of subclauses 115.8 and 115.10 in D1.1 regarding to POF clabling is considered insufficient by the commenter.
Because content of attachement is substantially technical, the type of comment is considered T by comment editor.

SuggestedRemedy

Best guessing by comment editor: to add text provided in "Comments to P8023.bv_D1.1(YUKI).docx" to subclauses 115.8 and 115.10.

Proposed Response *Response Status* **O**

Cl **115** *SC* **115.8** *P* **117** *L* **4** # 467

Takahashi, Satoshi POF promotion

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

"A4a.2" is a sub-category, not a type.

SuggestedRemedy

Change "types A4a.2" to "sub-category A4a.2"

Proposed Response *Response Status* **O**

Cl **30** *SC* *P* **21** *L* **22** # 362

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

As in other PHYs defined in 802.3, mapping to enumerated aMediaAvailable managed object should be provided for 1000BASE-H.

SuggestedRemedy

Add:

30.5.1.1.4 aMediaAvailable

BEHAVIOUR DEFINED AS:
...
For 1000BASE-H, a link_status of OK maps to the enumeration "availablelink". link_status of FAIL maps to enumeration "not availablelink"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.2.1.2** *P* **21** *L* **7** # 345

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

"MLCC" does not provide characteristic information about used modulation.
"BHP" does not provide meaning. Is it THP?

Same comment for line 13.

SuggestedRemedy

Replace line with:
1000BASE-H Clause 114 1000 Mb/s PAM16-THP

Same remedy for lines 7 and 13.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.2** *P* **21** *L* **20** # 427

Pérez-Aranda, Rubén KDPOF

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

According to syntax used in the aMAUType enumeration, enumeration 1000BASE-H should be 1000BASE-XH

SuggestedRemedy

Replace 1000BASE-H with 1000BASE-XH.

Proposed Response *Response Status* **O**

Cl **45** *SC* *P* *L* # 146

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

In some parts of the draft the OAM data registers are named 0->7 and in some others 1->8. This also affects clause 114. Choose a naming scheme and modify the document accordingly.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2** *P* **25** *L* **54** # 350

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

General comment to several tables, in the foot note a, it is indicated:
R/W=RO=Read only, which is not correct.

Table 45-121
Table 45-123
Table 45-124

SuggestedRemedy

R/W = Read/Write

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.6** *P* **23** *L* **9** # 429

Pérez-Aranda, Rubén KDPOF

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

Table is 45-7 but not 45-4

SuggestedRemedy

Replace with Table 45-7

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3** *P* **23** *L* **29** # 430

Pérez-Aranda, Rubén KDPOF

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

According to 802.3-2012_SECTION4, the table containing the assignment of registers in the PCS is Table 45-99.

SuggestedRemedy

To check number of table

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3** *P* **23** *L* **29** # 346

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Register names in Table 45-119 do not follow a single criteria. The ones used for OAM do not provide meaning about the functionality, however the names used for the rest of registers are descriptive.

Not valid numbers for subclauses referred in Table, because they are not avaiable. OAM transmit registers and OAM receive registers should be in separated sub-clauses.

Addresses should be assigned to registers according to the relevance of registers for operation of the PHY. PCS control and status registers should be in lower addresses than OAM.

SuggestedRemedy

Replace register addresses and names:
3.500: 1000BASE-H PCS control
3.501: 1000BASE-H PCS status 1
3.502: 1000BASE-H PCS status 2
3.503: 1000BASE-H PCS status 3
3.504: 1000BASE-H PCS status 4
3.505: 1000BASE-H OAM transmit control
3.506 though 3.513: 1000BASE-H OAM transmit message
3.514: 1000BASE-H OAM receive control
3.515 though 3.522: 1000BASE-H OAM receive message

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3** *P* **23** *L* **29** # 436

Pérez-Aranda, Rubén KDPOF

Comment Type **ER** *Comment Status* **X**

Names of OAM registers should be modified to provide meaning related to functionality. All the registers should indicate to be specific of 1000BASE-H

SuggestedRemedy

Replace with:
1000BASE-H OAM transmit control
1000BASE-H OAM transmit message
1000BASE-H OAM receive control
1000BASE-H OAM receive message
1000BASE-H PCS control
1000BASE-H PCS status 1
1000BASE-H PCS status 2
1000BASE-H PCS status 3
1000BASE-H PCS status 4

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3** *P* **23** *L* **51** # 431

Pérez-Aranda, Rubén KDPOF

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

Numbers of sub-clauses 45.2.3.47 to 45.2.3.50 are already used for TimeSync PCS registers in 802.3-2012_SECTION4, therefore sub-clause 45.2.3.48, 49 and 50 are not available for 1000BASE-H PCS registers

SuggestedRemedy

Check sub-clauses numbers

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **23** *L* **32** # 56

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Table 45-120. TXOAM_DATA8 Name is missing. Bit column is not correct for TXOAM_DATA registers.

SuggestedRemedy

Modify bit column assignment:
3.501.15:0 for TXOAM_DATA1
3.502.15:0 for TXOAM_DATA2
3.503.15:0 for TXOAM_DATA3
3.504.15:0 for TXOAM_DATA4
3.505.15:0 for TXOAM_DATA5
3.506.15:0 for TXOAM_DATA6
3.507.15:0 for TXOAM_DATA7
Insert file for TXOAM_DATA8 register:
3.508.15:0 for TXOAM_DATA8

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **23** *L* **53** # 306

Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Description of OAM transmit and receive registers lacks nomenclature consistency and also has ambiguities. Subclauses are not well divided in transmit and receive sections. Finally it lacks a table with the correspondence of message control&status bits and the state of all outstanding OAM messages in the channel.

SuggestedRemedy

Use the content of clause 45 of the attached document named ortiz_gepof_c45_114_proposal_v1.0.docx

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **24** *L* **1** # 119

Tapia, Pablo KDPOF

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

Change:
"to provide a OAM channel..."

SuggestedRemedy

To:
"to provide an OAM channel..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **24** *L* **1** # 247

Mendo, Carmen KDPOF

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

Typo: "..used to provide a OAM.."

SuggestedRemedy

Should read: "..used to provide an OAM.."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **24** *L* **1** # 181

Kobayashi, Shingeru TE Connectivity

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

"a" in front of OAM is shown.

SuggestedRemedy

It might be "an".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **24** *L* **10** # 138

Tapia, Pablo KDPOF

Comment Type **T** *Comment Status* **X**

OAM register naming is not coherent:
TXOAM vs RX_OAM

SuggestedRemedy

For example choose:
TX_OAM*
RX_OAM*
TX_REQ
RX_VAL
TX_MSGT
RX_MSGT

To avoid confusion PHYT and MERT may keep their actual name.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **24** *L* **32** # 133

Tapia, Pablo KDPOF

Comment Type **ER** *Comment Status* **X**

One TXOAM_DATA register is missing in Table 45-120 (either 0 or 8, depending on the naming scheme chosen, as suggested in previous comment).

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **24** *L* **9** # 235

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

In Table 45-120, register TXOAM_DATA8 is missing.

SuggestedRemedy

Add a line for TXOAM_DATA8 at the end of the table (3.508.15:0).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **24** *L* **9** # 236

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

In Table 45-120, register numbers in colunm "Bit(s)" are wrong for TXOAM_DATAx registers.

SuggestedRemedy

Register numbers should be:
3.501.15:0 TXOAM_DATA1
3.502.15:0 TXOAM_DATA2
3.503.15:0 TXOAM_DATA3
3.504.15:0 TXOAM_DATA4
3.505.15:0 TXOAM_DATA5
3.506.15:0 TXOAM_DATA6
3.507.15:0 TXOAM_DATA7
3.508.15:0 TXOAM_DATA8

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **25** *L* **1** # 237

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

The position of bits PHYT, MSGT and MERT does not match in Table 45-120 and sections 45.2.3.48.2, 45.2.3.48.3 and 45.2.3.48.4:
- Table 45-120: PHYT @ 3.500.14, MERT @ 3.500.13, MSGT @ 3.500.12.
- Text page 25: PHYT @ 3.500.13, MERT @ 3.500.12, MSGT @ 3.500.14.

SuggestedRemedy

Change the location of bits either in Table 45-120 or in the text.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **25** *L* **25** # 241

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

In Table 45-121, register numbers in colunm "Bit(s)" are wrong for RXOAM_DATAx registers (RX_OAM_DATAx in the current version).

SuggestedRemedy

Register numbers and names should be:
3.510.15:0 RXOAM_DATA1
3.511.15:0 RXOAM_DATA2
3.512.15:0 RXOAM_DATA3
3.513.15:0 RXOAM_DATA4
3.514.15:0 RXOAM_DATA5
3.515.15:0 RXOAM_DATA6
3.516.15:0 RXOAM_DATA7
3.517.15:0 RXOAM_DATA8
This would match the text in 45.2.3.48.12.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **25** *L* **25** # 240

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

In Table 45-121, register RX_OAM_DATA8 is missing.

SuggestedRemedy

Add a line for RX_OAM_DATA8 at the end of the table (3.517.15:0).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **25** *L* **29** # 238

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

The location of field "RXVAL" is wrong in Table 45-121 (column "Bit(s)").

SuggestedRemedy

Should be 3.509.15, not 3.500.15.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **25** *L* **32** # 239

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

Bits 14:0 of the control register 3.509 are wrongly placed in 3.510. Affects lines 32, 34 and 36.

SuggestedRemedy

Replace:
3.510.14:13 should be 3.509.14:13
3.510.12 should be 3.509.12
3.510.11:0 should be 3.509.11:0

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **25** *L* **43** # 248

Mendo, Carmen KDPOF

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

In Table 45-121, the data registers are named "RX_OAM_DATAx"; this is not consistent with the corresponding TX registers nor with the text description in 45.2.3.48.12.

SuggestedRemedy

Rename as RXOAM_DATAx rather than RX_OAM_DATAx.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.12** *P* **26** *L* **25** # 150

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

Review the relationship between PHD.OAM.DATA0 and RXOAM_DATA1. Depending on the naming scheme selected according to previous comments, this might be wrong. Also review register addresses.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.2** *P* **25** *L* **1** # 149

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

MSGT is located in 3.500.12 in Table 45-120 and in 3.500.14 in text.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.3** *P* **25** *L* **6** # 152

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

MSGT is located in 3.500.14 in Table 45-120 and in 3.500.13 in text.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.3** *P* **25** *L* **8** # 147

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

The PHYT bit is the MSGT of the last message received by the remote PHY. This definition shall be rewritten.

SuggestedRemedy

Change definition to:
"The PHYT bit is the MSGT of the last message received by the remote PHY."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.4** *P* **25** *L* **10** # 153

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

MERT is located in 3.500.13 in Table 45-120 and in 3.500.12 in text.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **25** *L* **18** # 148

Tapia, Pablo KDPOF

Comment Type **TR** *Comment Status* **X**

TXOAM_DATA register addresses do not match the values in Table 45-120.

SuggestedRemedy

Review addresses in both table and text.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **25** *L* **21** # 120

Tapia, Pablo KDPOF

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

Change
"and are stored"

SuggestedRemedy

To:
"are stored"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **25** *L* **21** # 121

Tapia, Pablo KDPOF

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

Review PHD.OAM.DATA0 assignment to TXOAM_DATA1 and its corresponding address. This might be right or wrong depending on the naming scheme chosen for OAM_DATA registers.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **25** *L* **29** # 57

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Table 45-121. RXOAM_DATA8 Name is missing. Bit column is not correct. An underscore character has been inserted after RX in registers name.

SuggestedRemedy

Modify bit column assignment:
3.509.15 for RXVAL
3.509.14:13 for Reserved
Modify bit column assignment and name:
3.509.12 for RXMSGT
3.509.11:0 for RXOAM_HDR
3.510.15:0 for RXOAM_DATA1
3.511.15:0 for RXOAM_DATA2
3.512.15:0 for RXOAM_DATA3
3.513.15:0 for RXOAM_DATA4
3.514.15:0 for RXOAM_DATA5
3.515.15:0 for RXOAM_DATA6
3.516.15:0 for RXOAM_DATA7
Insert file for RXOAM_DATA8 register:
3.517.15:0 for RXOAM_DATA8

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **25** *L* **29** # 122

Tapia, Pablo KDPOF

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

In Table 45-121 Bits 3.500.15 has been already used for TXREQ.

SuggestedRemedy

Change to 3.510.15

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **25** *L* **43** # 123

Tapia, Pablo KDPOF

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

One RX_OAM_DATA register is missing in Table 45-121 (either 0 or 8, depending on the coherent naming scheme chosen, as suggested in previous comments).

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **25** *L* **54** # 58

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Table 45-121. Wrong note below table: R/W=RO=Read only.
The same error appears in Table 45-124.

SuggestedRemedy

Replace note by: RO=Read Only

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.7** *P* **26** *L* **1** # 134

Tapia, Pablo KDPOF

Comment Type **ER** *Comment Status* **X**

Is this section describing a single register or several registers? The description seems to be describing the whole 3.510 register, but it is confusing. Moreover, there is no equivalent description for register 3.500 (the fields are described individually). Review.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.7** *P* **26** *L* **3** # 59

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Typing error. "These register ..."

SuggestedRemedy

Replace text by: "These registers ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.7** *P* **26** *L* **3** # 60

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Wrong register name OAM_DATA.

SuggestedRemedy

Replace OAM_DATA0:7 by PHD.OAM.DATA0:7.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.8** *P* **26** *L* **7** # 139
Tapia, Pablo KDPOF

Comment Type **T** *Comment Status* **X**

Wrong register address.
Also found in lines 13, 17, 21 and 25.

SuggestedRemedy

Change to 3.510.X

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49** *P* **27** *L* **1** # 251
Mendo, Carmen KDPOF

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

Typo: exclamation point at the end of the section heading.
Also in 45.2.3.50 (p.29), 45.2.3.51 (p.31), 45.2.3.52 (p.32), 45.2.3.53 (p.32).

SuggestedRemedy

Remove exclamation point.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49** *P* **27** *L* **1** # 124
Tapia, Pablo KDPOF

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

Remove "!" at the end of line.
Also found at (page,line):
(29,1)
(31,21)
(32,1)
(32,19)

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49** *P* **27** *L* **1** # 22
Gilarranz, Alejandra KDPOF

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

Typing error. Extra character "!" appears in Subclause Title 45.2.3.49.
The same typing error appears in the following Subclause titles: 45.2.3.50 (page 31), 45.2.3.51 (page 31), 45.2.3.52 (page 32) and 45.2.3.53 (page 32).

SuggestedRemedy

Remove character "!".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **40** # 432
Pérez-Aranda, Rubén KDPOF

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

These bits have a default value of 000, selecting normal 1000BASE-H operation.
It is not completely correct the sentence.

SuggestedRemedy

Replace with:

These bits have a default value of 000, selecting no loopback operation.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **43** # 283
Ortiz Rojo, David KDPOF

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

Comma missing after GMII.

SuggestedRemedy

Insert a comma after GMII. The sentence should be: "GMII, looping the data ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **43** # 257
Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**

The explanation of the "GMII level loopback" is unclear.

SuggestedRemedy

The phrase: "..looping the data back to the receive path of the **PCS**" suggests that some part of the PCS is active (contradicts the next sentence). Should probably replace "PCS" with "GMII".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **43** # 386
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Description is not correct. The data is looped back to the receive path of the GMII.

SuggestedRemedy

Replace with:
In PCS GMII level loopback, the 1000BASE-H PCS shall accept data on the transmit data path from the GMII looping the data back to the receive path on the GMII. In this mode, the PCS transmit and receive functions may not be exercised.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **46** # 258
Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**

The explanation of the "PMD level loopback" may not be complete.

SuggestedRemedy

The text does not specify whether there is transmit output through the PMD in this mode.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **48** # 249
Mendo, Carmen KDPOF

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

The sentence "..data shall be processed looped back.." seems incorrect.

SuggestedRemedy

Missing "and"? Suggest "..data shall be processed and looped back..".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **48** # 125
Tapia, Pablo KDPOF

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

Confusing sentence:
"When line loopback... transmission path". Add commas and/or rewrite.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **49** # 284
Ortiz Rojo, David KDPOF

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

Typo. "processed" should be removed.

SuggestedRemedy

Change sentence to: "received data shall be looped back near ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **52** # 250
Mendo, Carmen KDPOF

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

Typo: ".. to the GMII received interface ..".

SuggestedRemedy

Should be: ".. to the GMII receive interface ..".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.2** *P* **27** *L* **52** # 312

Pérez-Aranda, Rubén KDPOF

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

Then the received data stream is forwarded to the GMII received interface...

SuggestedRemedy

Replace "GMII received interface" with "GMII receive interface"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.3** *P* **28** *L* **12** # 403

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

PHD.CAP.LPI advertisement bit is transmitted as 1 if EEE enable (3.518.0) is 1 AND the local device is capable for EEE indicated by register 3.519.0.

SuggestedRemedy

Replace with similar wording of OAM enable.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.3** *P* **28** *L* **6** # 285

Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Description is ambiguous. The header field should only be set to one if this bit is set and also if the local phy has OAM ability. Moreover to ensure robust operation value of PHD.CAP.OAM should not change once the link is stablished.

SuggestedRemedy

Change description to:
OAM capability is advertised to the link partner when the local PHY is capable of running the OAM protocol (as indicated in OAM ability bit of register 3.519) and this bit is set. The value of this bit is reflected in field PHD.CAP.OAM only after a PMA reset.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.3** *P* **28** *L* **6** # 402

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

PHD.CAP.OAM advertisement bit is transmitted as 1 if OAM enable (3.518.1) is 1 AND the local device is capable for OAM indicated by register 3.519.1.

Ability for OAM is implementation optional. It should be indicated in C/114.4. Exchange of capabilities between link partners by using PHD.CAP.OAM is not described in C/114.4

SuggestedRemedy

Replace with:
OAM enable when local device is capable of running an OAM protocol. PHD.CAP.OAM advertisement bit is transmitted as one when OAM enable bit (3.518.1) is set to one (enable) and OAM ability, by the local device, is indicated with value one in register OAM ability (3.519.1).
Setting to zero (disable) causes the PHD.CAP.OAM advertisement bit to be transmitted as zero (see Table 114-2).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.3** *P* **28** *L* **7** # 252

Mendo, Carmen KDPOF

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

Typo: ".. Setting to zero (disable) cause ..".
Also in 45.2.3.49.4 (p.28, l.13).

SuggestedRemedy

Should be: ".. Setting to zero (disable) causes ..".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.4** *P* **28** *L* **12** # 286
Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Description is ambiguous. The header field should only be set to one if this bit is set and also if the local phy has EEE ability. Moreover to ensure robust operation value of PHD.CAP.LPI should not change once the link is stablished.

SuggestedRemedy

Change description to:
EEE capability is advertised to the link partner when the local PHY is EEE capable (as indicated in EEE ability bit of register 3.519) and this bit is set. The value of this bit is reflected in field PHD.CAP.LPI only after a PMA reset.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.4** *P* **28** *L* **14** # 23
Gilarranz, Alejandra KDPOF

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

Missing parenthesis.

SuggestedRemedy

Add parenthesis at the end of the sentence.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.4** *P* **28** *L* **14** # 26
Gilarranz, Alejandra KDPOF

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

Missing parenthesis.

SuggestedRemedy

Add parenthesis at the end of the sentence.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.5.140** *P* **31** *L* **17** # 140
Tapia, Pablo KDPOF

Comment Type **T** *Comment Status* **X**

OAM ability description missing.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **14** # 24
Gilarranz, Alejandra KDPOF

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

Typing error. Missing blank in text "... thestate ..."

SuggestedRemedy

Replace text by : "... the state ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **14** # 313
Pérez-Aranda, Rubén KDPOF

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

Table 45-123:
Returns the value of thestate variable link_status

SuggestedRemedy

replace with: "the state variable ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **14** # 287
Ortiz Rojo, David KDPOF

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

Typo, missing space.

SuggestedRemedy

Change "thestate" to "the state"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **17** # 288
Ortiz Rojo, David KDPOF

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

Wording laks consistency with the other descriptions.

SuggestedRemedy

Change description to "Returns the value of the state variable ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **17** # 25
Gilarranz, Alejandra KDPOF

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

Missing "the" word before "state variable."

SuggestedRemedy

Replace text "Returns the value of state variable..." by "Returns the value of the state variable..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **35** # 61
Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Table 45-123. Wrong register Description.

SuggestedRemedy

Replace "... currently transmitting LPI" by "... currently receiving LPI" in both Name and Description columns.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **36** # 363
Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Table 45-123:
Lines 36 and 37: Incorrect description.
Line 39 may be improved

SuggestedRemedy

Replace with:
L36: 1=Tx PCS is currently receiving LPI
L37: 0=Tx PCS is not currently receiveing LPI
L39: 0=Rx PCS is not currently receiving LPI

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **43** # 27
Gilarranz, Alejandra KDPOF

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

Table 45-123. Typing error in the description field: "...it is disable."
The same error appears in the same table, line 45.

SuggestedRemedy

Replace text by "... it is disabled.".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **43** # 289
Ortiz Rojo, David KDPOF

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

Typo, "disable" should be "disabled". It also happens on line 45.

SuggestedRemedy

Change to "... OAM ability or it is disabled"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **43** # 253
Mendo, Carmen KDPOF

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

Typo: in Table 45-123, in the description of fields 3.519.3 and 3.519.2: ".. or it is disable".

SuggestedRemedy

Should be: ".. or it is disabled".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **49** # 62
Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Table 45-123. Error in Description field. OAM is written instead of EEE.

SuggestedRemedy

Replace text by:
1 = The PHY has EEE ability
0 = The PHY does not have EEE ability.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **49** # 404
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Incorrect description. It hould EEE instead of OAM

SuggestedRemedy

L39: 1=The PHY has EEE ability
L40: 0=The PHY does not have EEE ability

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50** *P* **29** *L* **51** # 28
Gilarranz, Alejandra KDPOF

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

Table 45-121. Wrong note text below table: "R/W=RO=Read only, ..."

SuggestedRemedy

Replace note by: "RO=Read Only, ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.1** *P* **30** *L* **3** # 405
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Incorrect description

SuggestedRemedy

Replace with:
This bit indicates the value of the state variable loc_rcvr_status as determined by the PHY quality monitor state diagram (see <put the correct reference>)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.1** *P* **30** *L* **3** # 244
Mendo, Carmen KDPOF

Comment Type **T** *Comment Status* **X**

Wrong explanation of field 3.519.15 (copy of 3.519.12).

SuggestedRemedy

Replace with correct description. Suggest:
"This bit indicates the value of the state variable loc_rcvr_status which reflects the link status reported by the local receiver."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.1** *P* **30** *L* **3** # 63
Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Wrong state variable name "loc_rcvr_hdr_lock" written in local receiver status description.

SuggestedRemedy

Replace "loc_rcvr_hdr_lock" variable by "loc_rcvr_status" variable in text.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.10** *P* **30** *L* **48** # 369
Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description can be improved to provide more accurate information.

SuggestedRemedy

When read as a one, this bit indicates that the transmit 1000BASE-H PCS is currently receiving LPI signals from GMII. When read as a zero, this bit indicates that the 1000BASE-H PCS transmit function is not currently receiving LPI signals. The behavior if read during a state transition is undefined.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.11** *P* **31** *L* **3** # 370
Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description can be improved to provide more accurate information.

SuggestedRemedy

When read as a one, this bit indicates that the receive 1000BASE-H PCS is currently receiving LPI signals from PMD service interface. When read as a zero, this bit indicates that the 1000BASE-H PCS receive function is not currently receiving LPI signals. The behavior if read during a state transition is undefined.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.11** *P* **31** *L* **4** # 185
Mendo, Carmen KDPOF

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

Typo: ".. the PHY is receiving is in LPI Transmit Blocks ..".

SuggestedRemedy

Should be: ".. the PHY is receiving LPI Transmit Blocks ..".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.12** *P* **31** *L* **9** # 371
Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description should be improved.

SuggestedRemedy

This bit indicates the OAM ability of the remote PHY received in the PHD field PHD.CAP.OAM. When read as one, this bit indicates the remote PHY is capable of running OAM protocol and it is enabled. When read as zero, this bit indicates that the remote PHY is not capable for OAM or it is disable.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.13** *P* **31** *L* **14** # 372
Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description should be improved and corrected.

SuggestedRemedy

This bit indicates the EEE ability of the remote PHY received in the PHD field PHD.CAP.LPI. When read as one, this bit indicates the remote PHY is capable of LPI and it is enabled. When read as zero, this bit indicates that the remote PHY is not capable for LPI or it is disable.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.13** *P* **31** *L* **14** # 66
Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Wrong PHD field "PHD.CAP.OAM" is written in Remote EEE ability description.

SuggestedRemedy

Replace PHD field by "PHD.CAP.EEE".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.14** *P* **31** *L* **17** # 406
Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

No descriptions for OAM ability and EEE ability bits.

SuggestedRemedy

OAM ability:
This bit indicates the OAM ability if the local PHY. When read as one, this bit indicates that the local PHY is capable of running an OAM protocol. When read as zero, it indicates the local PHY is not capable for OAM protocol.

EEE ability:
This bit indicates the EEE ability if the local PHY. When read as one, this bit indicates that the local PHY is capable of LPI, hence the local PHY is able to enter the transmit PCS in LPI mode asserted from GMII and also to accept the PCS receive function LPI signaling from PMD service interface. When read as zero, it indicates the local PHY is not capable for LPI operation in either transmission or reception.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.14** *P* **31** *L* **17** # 30
Gilarranz, Alejandra KDPOF

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

Missing description for subclauses 45.2.3.50.14 and 45.2.3.50.15.

SuggestedRemedy

Add subclauses description.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.14** *P* **31** *L* **17** # 242
Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

Empty section. Same for 45.2.3.50.15.

SuggestedRemedy

Add field explanation. For example:
"This bit indicates the OAM capability reported by the local PHY."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.14** *P* **31** *L* **18** # 292
Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Missing description.

SuggestedRemedy

Add the following description:
"This bit indicates if the local PHY hardware has capability to run the OAM protocol. If this bit is zero the local PHY will never advertise OAM capability to the link partner."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.15** *P* **31** *L* **19** # 141
Tapia, Pablo KDPOF

Comment Type **T** *Comment Status* **X**

EEE ability description missing.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.15** *P* **31** *L* **20** # 293

Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Missing description.

SuggestedRemedy

Use the following description:
"This bit indicates if the local PHY hardware has EEE capability. If this bit is zero the local phy will never advertise EEE capability to the link partner.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.5** *P* **30** *L* **23** # 29

Gilarranz, Alejandra KDPOF

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

Typing error in text "... variable rem_rcvr_hdr_lock aswhich reflects ..."

SuggestedRemedy

Replace text by "... variable rem_rcvr_hdr_lock which reflects ..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.5** *P* **30** *L* **23** # 184

Mendo, Carmen KDPOF

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

Typo: ".. variable rem_rcvr_hdr_lock aswhich reflects ..".

SuggestedRemedy

Typo: ".. variable rem_rcvr_hdr_lock which reflects ..".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.5** *P* **30** *L* **23** # 290

Ortiz Rojo, David KDPOF

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

Typo, "aswhich" should be "which"

SuggestedRemedy

Change sentence to: "... rem_rcvr_hdf_lock which reflects..."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.5** *P* **30** *L* **23** # 364

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

The state variable is determined by an state diagram and it should be reflected in the description.

SuggestedRemedy

Replace with:
This bit indicates the value of the state variable rem_rcvr_hdr_lock as determined by the remote PHD reception monitor state diagram.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.6** *P* **30** *L* **28** # 365

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Incorrect state diagram

SuggestedRemedy

Replace with:
This bit indicates the value of the state variable rcvr_hdr_lock as determined by the PHD reception monitor state diagram.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.7** *P* **30** *L* **34** # 366

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Incorrect reference.

SuggestedRemedy

Replace with the corerct one: 114.3.2.2.3

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.8** *P* **30** *L* **38** # 291

Ortiz Rojo, David KDPOF

Comment Type **T** *Comment Status* **X**

Current description request that the bit should be clear when read. However it should be updated to the new status when read, which is not neccessarily zero.

SuggestedRemedy

Replace "This bit is reset to zero when read (see 114.5)" by
"This bit is updated to the new status when read".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.8** *P* **30** *L* **38** # 367

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description can be improved to provide more accurate information.

SuggestedRemedy

When read as a one, this bit indicates that the transmit 1000BASE-H PCS has received LPI signaling from GMII one or more times since the register was last read. When read as a zero, this bit indicates that the 1000BASE-H PCS transmit function has not received LPI signaling. This bit shall be implemented with latching high behavior.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.9** *P* **30** *L* **43** # 368

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description can be improved to provide more accurate information. In addition is not correct because the PCS receive function does not receive LPI signals from GMII, but from PMD service interface.

SuggestedRemedy

When read as a one, this bit indicates that the receive 1000BASE-H PCS has received LPI signaling from PMD service interface one or more times since the register was last read. When read as a zero, this bit indicates that the 1000BASE-H PCS receive function has not received LPI signaling. This bit shall be implemented with latching high behavior.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.9** *P* **30** *L* **43** # 64

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Description is the same for both subclauses 45.2.3.50.8 and 45.2.3.50.9.

SuggestedRemedy

Replace text of subclause 45.2.3.50.9. by "This bit indicates that the local PHY has received LPI signalling in the receive path."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.1** *P* **31** *L* **36** # 407

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Description can be improved. Correct log2(100.35) replacing with log2(10^0.35).

SuggestedRemedy

These bits are set by the local 1000BASE-H PHY to indicate the link margin of receiver. Link margin is defined as the extra signal-to-noise ratio that is available in decoding with respect to the minimum one needed by the receiver to assert loc_rcvr_status = OK. Link margin is provided fix-point formatted (14,6) in log2 units. For example, a link margin of 3.5 dB is equivalent to log2(10^0.35) = 1.1627 log2 units, which is equivalent to 0x012A in (14,6) fixed-point format.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.1** *P* **31** *L* **37** # 243

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

No explanation of the fixed-point format notation.

SuggestedRemedy

Add explanation: (M,N) = M bits of which N for integer part including sign.
Alternatively, add reference to 114.3.1 where it is explained (p.61, l.44).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.1** *P* **31** *L* **37** # 294

Ortiz Rojo, David KDPOF

Comment Type **TR** *Comment Status* **X**

Description of the meaning of format (14,6) is missing.

SuggestedRemedy

Add this sentence at the end of the description:

"In the fixed point format specification te first number indicates the total number of bits and the second number represents the bits allocated to the integer part. A formal description for converting fixed point numbers to floating point can be found in 114.3.4."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.1** *P* **31** *L* **38** # 65

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Error in equation "log2(100.35)=1.1627"

SuggestedRemedy

Replace equation value by "log2(10^0.35)=1.1627"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.1** *P* **31** *L* **38** # 126

Tapia, Pablo KDPOF

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

Change:
"log2(100.35)"

SuggestedRemedy

To:
"log2(10^0.35)"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.1** *P* **31** *L* **38** # 295

Ortiz Rojo, David KDPOF

Comment Type **ER** *Comment Status* **X**

Typo in the formula.

SuggestedRemedy

Replace "log2(100.35)" by "log2(10^0.35)".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.52.1** *P* **32** *L* **16** # 254

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

Missing details of format.

SuggestedRemedy

Add reference to 45.2.3.51.1, assuming the format is the same.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.52.1** *P* **32** *L* **16** # 408

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Description can be improved.

SuggestedRemedy

These bits reports the link margin of the remote PHY receiver as it is received in the PHD field PHD.RX.LINKMARGIN. Remote link margin is the extra signal-to-noise ratio available in the remote receiver with respect to the minimum one needed to assert rem_rcvr_status = OK. Same fixed-point format of local link margin (3.520.13:0).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.52.1** *P* **32** *L* **17** # 296

Ortiz Rojo, David KDPOF

Comment Type **ER** *Comment Status* **X**

Format of this field is not specified.

SuggestedRemedy

Add the following sentence to the description:
"This field has the same format than register 3.520.13:0."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.53** *P* **32** *L* **24** # 373

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description of 3.522.15 not correct when value 1.

BER test mode counter reset (3.522.15) is SC (Self-clearing).

BER test mode counter (3.521.14:0) is NR (Non Roll-over) and shoud be indicated.

SuggestedRemedy

Line 26, replace with:
1 = reset the BER test mode counter 3.522.14:0.

Add SC to last column for the first row of table 45-126.
Add SC = Self-clearing to foot note a of Table 45-126.

Add NR to last column for the last row of table 45-126.
Add NR = Non Roll-over to foot note a of Table 45-126.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.53** *P* **32** *L* **26** # 127

Tapia, Pablo KDPOF

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

Remove TBD from PcsTBD3.14:0 and assign propper value.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.53** *P* **32** *L* **26** # 255

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

Typo: in Table 45-126, the description of 3.522.15 seems to be corrupted.

SuggestedRemedy

Probably intended to be a reference to the counter field in the same register:
1 = reset the BER test mode counter in 3.522.14:0
0 = ignored

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.53** *P* **32** *L* **28** # 67

Gilarranz, Alejandra KDPOF

Comment Type **ER** *Comment Status* **X**

Table 45-126. Wrong value of Bit column (3.521.14:0).

SuggestedRemedy

Replace value by 3.522.14:0

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.53** *P* **32** *L* **28** # 256

Mendo, Carmen KDPOF

Comment Type **ER** *Comment Status* **X**

In Table 45-126, wrong location for field "BER test mode counter" (in column "Bit(s)").

SuggestedRemedy

Replace 3.521.14:0 with 3.522.14:0.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.53.1** *P* **32** *L* **35** # 374

Pérez-Aranda, Rubén KDPOF

Comment Type **T** *Comment Status* **X**

Description may be improved and overflow behaviour should be indicated.

SuggestedRemedy

These bits are a 15-bit counter that counts the number of bits received with value 1 at the output of the binary descrambler, when the PHY receiver is operating in test mode 1. These bits shall be reset to all zeroes when the PCS receive function enters test mode 1 by indication of the link partner (see 114.8.1) or when reset is instructed by writting one to 3.522.15 BER test mode counter reset. These bits shall be held at all ones in the case of overflow.

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.2** *P* **33** *L* **27** # 409

Pérez-Aranda, Rubén KDPOF

Comment Type **TR** *Comment Status* **X**

Number of symbols (80) with value 0 prepended and postended to S1, S2x, and PHSx sub-blocks when they are used as refresh signals in LPI does not match with the sleep and wake times that the PMD RX function requires.
Sub-clause 114.5 has to agree with requirements for sleep and wake of PMD RX as presented by Avago in Pittsburgh (see "Avago - Sleep_wakeup_timing_of_FOT_Rx_overTemp.pdf") and sent to GEPOF reflector at May 26th.

SuggestedRemedy

Modify line 27 as:
0, 0, 23.52, 23.52, 1.30, 1.30

See attached file "perezaranda_GEPOF_1_0715.pdf" for rational behind that.

Proposed Response *Response Status* **O**

Cl **FM** *SC* *P* *L* # 469

Grow, Robert RMG Consulting

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

Front matter is not consistent with P802.3 draft.

SuggestedRemedy

Update frontmater Introduction to current 802.3 template.

Proposed Response *Response Status* **O**