Cl **114** *SC* **114.5.5.1** *P* **98** *L* **10** # 1

Pérez-Aranda, Rubén KDPOF

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

Specifications for positive and negative output droop are wrong because a bug in the simulation used to calculate them.

SuggestedRemedy

Replace with correct values:
DO+: min 0 dB, max 1.1 dB
DO-: min -0.9 dB, max 0 dB

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.1** *P* **41** *L* **1** # 2

Gilarranz, Alejandra KDPOF

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

Data sub-blocks can make reference to payload or header data sub-blocks.
Sentence "GMII data stream is mapped into the data sub-blocks..." should be replaced by "GMII data stream is mapped into the payload data sub-blocks..."

SuggestedRemedy

Replace sentence as suggested in comment.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.4** *P* **45** *L* **42** # 3

Gilarranz, Alejandra KDPOF

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

Typing error.

SuggestedRemedy

Replace "ans" by "and".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.1.3.2** *P* **86** *L* **40** # 4

Gilarranz, Alejandra KDPOF

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

Cross reference in PMD_TXPWR.request section to 114.8 makes reference to "Loopback modes".
Also in page 87, line 14.

SuggestedRemedy

Modify reference to point to 114.4.4 section.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.6** *P* **27** *L* **23** # 5

Gilarranz, Alejandra KDPOF

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

Missing full stop at the end of the sentence.
Also in subclause 45.2.3.49, page 27, line 32.

SuggestedRemedy

Add full stop.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.2** *P* **29** *L* **23** # 6

Gilarranz, Alejandra KDPOF

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

Missing parenthesis in "(no test mode is selected in 3.518.15:13."

SuggestedRemedy

Add parenthesis.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51** *P* **30** *L* **22** # 7

Gilarranz, Alejandra KDPOF

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

In Table 45-164. Useless word "mode" in bit 3.519.6 description.
Also in page 30, line 23.

SuggestedRemedy

Replace "Tx PCS is currently transmitting LPI mode" by "Tx PCS is currently transmitting LPI".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.1** *P* **40** *L* **53** # 8

Gilarranz, Alejandra KDPOF

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

Cross reference to 114.5 at the end of the sentence does not work properly.
The same comment applies for cross reference 114.2.3 in pag 64, lin 6.

SuggestedRemedy

Fix cross reference to transport to section 114.5 of the document.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **65** *L* **20** # 9

Gilarranz, Alejandra KDPOF

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

In Table 114-3, for field PHD.TX.NEXT.THP.SETID "Valid values" column, the text for value 0 "no request for changing the THP coefficients is performed" should be replaced by "no request for applying the THP coefficientes received in PHD field PHD.RX.REQ.THP.COEF*" (they can change or not).

SuggestedRemedy

Replace text as suggested in comment.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **66** *L* **6** # 10

Gilarranz, Alejandra KDPOF

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

In Table 114-3, in PHD.RX.LINKMARGIN Description column the following idea is missing: "When the value is negative, this field reports the needed extra SNR with respect to min SNR to provide loc_rcvr_status OK."

SuggestedRemedy

Insert text with the idea suggested in comment.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **61** *L* **31** # 11

Gilarranz, Alejandra KDPOF

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

In figure 114-31. "k0" variable is not defined.

SuggestedRemedy

Define or remove "k0" variable from figure 114-31.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.4.2** *P* **95** *L* **3** # 12

Gilarranz, Alejandra KDPOF

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

Typing error. "Link segment type I" should be replaced by "Link segment type II".
Also in page 95, line 5.

SuggestedRemedy

Replace text as suggested in comment.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.4.3** *P* **96** *L* **3** # 13

Gilarranz, Alejandra KDPOF

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

Typing error. "Link segment type I" should be replaced by "Link segment type III". Also in page 96, line 5.

SuggestedRemedy

Replace text as suggested in comment.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.1** *P* **28** *L* **15** # 14

Gilarranz, Alejandra KDPOF

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

According to control state diagram in figure114-53, RXO_VAL bit is set to zero when the last register (3.517) containing the message is read, but only after a read of the first register (3.510).

SuggestedRemedy

Replace string:
"The bit is set to zero when the last register (3.517) containing the message is read."
with:
"The bit is set to zero when the last register (3.517) containing the message is read after a read access to the first register (3.510)."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.3.1** *P* **91** *L* **25** # 15

Gilarranz, Alejandra KDPOF

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

It is not mentioned in section text how to align pdb data when transitioning from Test Mode 1 to normal mode.

SuggestedRemedy

Add text to make clear how to align payload data when transitioning from Test Mode 1 to normal mode.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.2.4.2** *P* **91** *L* **9** # 16

Gilarranz, Alejandra KDPOF

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

In figure 114-47, the transition conditions "aop_tp3<-35dBm" and "aop_tp3>-29dBm" does not match with section text. They have been interchanged.

SuggestedRemedy

Place the mentioned conditions in the correct transitions in figure 114-47.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **20** *L* **41** # 17

Tapia, Pablo KDPOF

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

"bose, ray-chaudhurim hocquenghem (BCH)"

SuggestedRemedy

Remove "m", add comma, and use upper-case for personal names:
Bose, Ray-Chaudhuri, Hocquenghem (BCH)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48.5** *P* **27** *L* **18** # 18

Tapia, Pablo KDPOF

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

"together with the TXO_DATAx bits are the OAM message payload"
Change "are" to "form".

SuggestedRemedy

"together with the TXO_DATAx bits form the OAM message payload"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.49.3** *P* **28** *L* **26** # 19
Tapia, Pablo KDPOF

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

"and together with the RXO_DATAx bits are the received OAM message payload."
Change "are" to "form".

SuggestedRemedy

"and together with the RXO_DATAx bits form the received OAM message payload."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.2** *P* **29** *L* **23** # 20
Tapia, Pablo KDPOF

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

"(no test mode is selected in 3.518.15:13."
Closing parenthesis missing.

SuggestedRemedy

Change to:
"(no test mode is selected in 3.518.15:13)."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.3** *P* **29** *L* **30** # 21
Tapia, Pablo KDPOF

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

"Changes of OAM enable value"

SuggestedRemedy

"Changes in OAM enable value"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.4** *P* **29** *L* **38** # 22
Tapia, Pablo KDPOF

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

"Changes of EEE enable value"

SuggestedRemedy

"Changes in EEE enable value"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2** *P* **40** *L* **18** # 23
Tapia, Pablo KDPOF

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

"which finally is decoded to produce the GMII receive data stream."
Change sentence order.

SuggestedRemedy

"which is finally decoded to produce the GMII receive data stream."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.3.4** *P* **45** *L* **41** # 24
Tapia, Pablo KDPOF

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

" mapped into 1792 PAM2 symbols ans scaled as follows"
TYPO, change ans by and.

SuggestedRemedy

" mapped into 1792 PAM2 symbols and scaled as follows"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **48** *L* **4** # 25
Tapia, Pablo KDPOF

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

"CTRL<1:0> (CB<6:7>): This field encodes the content of..."

SuggestedRemedy

Assuming there is no order reversing of bits, CTRL<1:0> shall be mapped to CB<7:6>.
Change to:
"CTRL<1:0> (CB<7:6>): This field encodes the content of..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **48** *L* **26** # 26
Tapia, Pablo KDPOF

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

"Finally, the first CB is always shifted to the beginning of the PDB.CTRL."

SuggestedRemedy

It might be confusing. Replace by:
"Finally, the bytes within the PDB.CTRL are reordered as follows:
1) The first received CB from the GMII is transmitted in first place,
2) followed by all the data bytes that were received before the first CB (if any),
3) followed by all the bytes that were received after the first CB."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.1.1** *P* **49** *L* **51** # 27
Tapia, Pablo KDPOF

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

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

SuggestedRemedy

Redundant "calculated". Replace by:

"The offset to the start of the first PDB in Transmit Block j+1 DELTA(j+1) can be calculated from the offset of Transmit Block j DELTA(j) by using the following equation"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **56** *L* **45** # 28
Tapia, Pablo KDPOF

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

"The processing for the I and Q components are not equal."

SuggestedRemedy

"The processing for the I and Q components is not equal."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **56** *L* **47** # 29
Tapia, Pablo KDPOF

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

"which sets 1 or -1 at the input to the last adder..."

SuggestedRemedy

"which sets 1 or -1 at the input of the last adder..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.3** *P* **69** *L* **41** # 30
Tapia, Pablo KDPOF

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

"the PHY receiver begins link establishment with recovering clock from the received signal."
Change "with" to "by".

SuggestedRemedy

"the PHY receiver begins link establishment by recovering the clock from the received signal."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.4.5** *P* **85** *L* **14** # 31

Tapia, Pablo KDPOF

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

Equation 114-24 mixes variable names with constants. This might be confusing.

SuggestedRemedy

Follow the style chosen for equations 114-22 and 114-23, where the equation is expressed first with variable names, and then substituting them with their values.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.2.4** *P* **90** *L* **28** # 32

Tapia, Pablo KDPOF

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

Dot missing at the end of line:
"State variables are defined in 114.5.2.4.1"

SuggestedRemedy

"State variables are defined in 114.5.2.4.1."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.2.4.2** *P* **91** *L* **9** # 33

Tapia, Pablo KDPOF

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

In figure 114-47 the average optical power thresholds are interchanged.

SuggestedRemedy

When passing from PMDDET_FAIL to PMDDET_OK the aop_tp3 shall be higher than -29dBm, and analogously, when passing from PMDDET_OK to PMDDET_FAIL, the aop_tp3 shall be smaller than -35 dBm.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.3.1** *P* **91** *L* **31** # 34

Tapia, Pablo KDPOF

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

"On reception, after MLCC decoding and binary descrambler, a zero data sequence is expected with no errors."

SuggestedRemedy

"In absence of errors, a zero data sequence is expected after the binary descrambler in the receiver."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.3.4** *P* **92** *L* **18** # 35

Tapia, Pablo KDPOF

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

"For test mode 4 definition, let be q1 the sub-sequence composed by ..."
Change sentence order.

SuggestedRemedy

"For test mode 4 definition, let q1 be the sub-sequence composed by ..."

Proposed Response *Response Status* **O**

Cl **99** *SC* *P* **14** *L* **15** # 36

Tapia, Pablo KDPOF

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

"...and 1000BASE-RHC37"
Remove "37" at the end of the sentence.

SuggestedRemedy

"...and 1000BASE-RHC"

Proposed Response *Response Status* **O**

Cl **99** *SC* *P* **17** *L* **1** # 37
Tapia, Pablo KDPOF

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

"...and 1000BASE-RHC114"
Remove "114" at the end of the sentence.

SuggestedRemedy

"...and 1000BASE-RHC"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.5** *P* **101** *L* **31** # 38
Tapia, Pablo KDPOF

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

Remove "at" in:
"P1 is measured at 15 ns after the rise-edge crossing of transmit signal with the average optical power level."

SuggestedRemedy

"P1 is measured 15 ns after the rise-edge crossing of transmit signal with the average optical power level."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.6** *P* **101** *L* **51** # 39
Tapia, Pablo KDPOF

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

"Pmax and Pmin are the maximum and minimum values that take the optical power signal at TP2,"
change sentence order.

SuggestedRemedy

"Pmax and Pmin are the maximum and minimum values that the optical power signal take at TP2,"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.7** *P* **102** *L* **9** # 40
Tapia, Pablo KDPOF

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

Redundant measure -> measurements.
"To measure ERmax, P1 and P0, measurements are taken where the envelope of the signal is minimum."

SuggestedRemedy

"To estimate ERmax, P1 and P0, measurements are taken where the envelope of the signal is minimum."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.7** *P* **102** *L* **10** # 41
Tapia, Pablo KDPOF

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

Remove "at" in:
"P1 is measured at 15 ns after rise-edge AOP crossing and P0 at 15 ns after fall-edge AOP crossing"

SuggestedRemedy

"P1 is measured 15 ns after rise-edge AOP crossing and P0 15 ns after fall-edge AOP crossing"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.8** *P* **102** *L* **32** # 42
Tapia, Pablo KDPOF

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

"The apparatus must have sufficient linearity so does not introduce any appreciable distortion in the measurement."
Vague specification for apparatus distortion.

SuggestedRemedy

Quantify distortion specification.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7.3** *P* **106** *L* **3** # 43
Tapia, Pablo KDPOF

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

Table 114-12:
It would be easier to understand if the order of columns in the table were:
TXO_REQ -> TXO_MSGT -> TXO_PHYT -> TXO_MERT
following the chronological sequence of the OAM transmission protocol.

SuggestedRemedy

Change order of columns in table as suggested.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7.4.1** *P* **106** *L* **54** # 44
Tapia, Pablo KDPOF

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

"either local or remote PHY do not have OAM ability or it is disabled"

SuggestedRemedy

"either local or remote PHY does not have OAM ability or it is disabled"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7.4.3** *P* **109** *L* **43** # 45
Tapia, Pablo KDPOF

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

"Moreover, bits PHD.OAM.MERT and PHD.OAM.PHYT is also set to zero."

SuggestedRemedy

"Moreover, bits PHD.OAM.MERT and PHD.OAM.PHYT are also set to zero."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7.4.3** *P* **109** *L* **46** # 46
Tapia, Pablo KDPOF

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

"Once the transmission and reception of PHD blocks is reliable"

SuggestedRemedy

"Once the transmission and reception of PHD blocks are reliable"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8** *P* **110** *L* **53** # 47
Tapia, Pablo KDPOF

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

"Loopback modes support a MAC transmit-to-self that includes a selected portion of the bidirectional 1000BASE-H link."

SuggestedRemedy

"Loopback modes support a MAC transmit-to-itself that includes a selected portion of the bidirectional 1000BASE-H link."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.11** *P* **113** *L* **12** # 48
Tapia, Pablo KDPOF

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

The Delay constraint is specified as the sum of Tx and Rx delays. This makes hard to determine if a given Tx (or Rx) implementation is compliant with the specification, because although it honors the delay constraint with a complementary Rx (or Tx) implementation it might violate the constraint with different Rx (or Tx) implementations.

SuggestedRemedy

Specify a delay constraint for Tx and a delay constraint for Rx.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.48** *P* **26** *L* **17** # 49

Carlos, Sánchez de La Lama KDPOF

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

In Table 45-161, bit 3.500.15 is R/W, but meaning is given only for write in the "1" value case.

SuggestedRemedy

Change description to:
0 = OAM transmit registers available for a new message
1 = Transmission of OAM message pending; write as "1" to request transmission

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.54** *P* **33** *L* **18** # 50

Carlos, Sánchez de La Lama KDPOF

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

No need to include legend for R/W as there are no R/W bits Table 45-167.

SuggestedRemedy

Remove R/W legend.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.3** *P* **55** *L* **44** # 51

Carlos, Sánchez de La Lama KDPOF

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

Confusing redaction: "The reset state of the counter is zero at the beginning of each codeword encoding. Since the counter is reset for each set of kQAM bits, it always starts at zero for each new codeword entering the mapper."

If the reset state is zero at the beggining of each codeword encoding, no need to clarify further.

SuggestedRemedy

Change those sentences to: "The reset state of the counter is zero. Since the counter is reset for each set of kQAM bits, it always starts at zero for each new codeword entering the mapper."

In any case, style should be consitent with page 56, line 39, so if changed here should be changed there as well.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.4.2** *P* **78** *L* **16** # 52

Mendo, Carmen KDPOF

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

Should mention what happens in LPI mode.
From 114.4.2 it seems that during LPI the link margin info can be still updated using only the refresh periods: is this correct? Does the spec need to justify that this is sufficient for a good estimate?

SuggestedRemedy

Specify PHY quality assessment in LPI operation.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7.4.2** *P* **109** *L* **17** # 53

Mendo, Carmen KDPOF

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

In Figure 114-52, conditions for transitions from state OAMTX_PHYT_WAIT are not exact.

SuggestedRemedy

No misinterpretation seems possible, but it would be more clear if:
- transition from OAMTX_PHYT_WAIT to OAMTX_NEWMSG_WAIT was labeled "new_rxphd_event=TRUE * hdr_crc16_status=OK * rxphd_phyt = txphd_msgt"
- transition from OAMTX_PHYT_WAIT to itself was labeled "new_rxphd_event=TRUE * hdr_crc16_status=OK * rxphd_phyt != txphd_msgt"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.8** *P* **111** *L* **10** # 54

Mendo, Carmen KDPOF

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

Clarify what happens on the TX paths in "PCS GMII level loopback" and "PCS PMD interface level loopback"?

SuggestedRemedy

Is this up to the implementer? It is specified for the line loopback...

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **64** *L* **32** # 55
Mendo, Carmen KDPOF

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

Typo: ".. for transmit and received OAM ..".

SuggestedRemedy

For consistency, should read: ".. for transmit and receive OAM ..".
Also on line 37 should read: ".. transmit and receive PHD ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.1** *P* **67** *L* **9** # 56
Mendo, Carmen KDPOF

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

Expression: ".. not correct determined by CRC16 ..".

SuggestedRemedy

Suggest: ".. not correct according to CRC16 ..".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.3** *P* **70** *L* **36** # 57
Mendo, Carmen KDPOF

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

Text format: avoid odd hyphenation of variables.

SuggestedRemedy

Should keep variable names in one line.
Also on p.71, l.42.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.1.5.1** *P* **87** *L* **38** # 58
Mendo, Carmen KDPOF

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

Typo: ".. then the PHY indicate link_status=FAIL."

SuggestedRemedy

Should read: "indicates" or "shall indicate".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.2** *P* **29** *L* **23** # 59
Mendo, Carmen KDPOF

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

Typo: Missing close-parentheses at the end of the line.

SuggestedRemedy

Close paranthesis.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.3** *P* **30** *L* **54** # 60
Mendo, Carmen KDPOF

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

No mention to the bit being LL.

SuggestedRemedy

Detail the LL behavior, eg: This bit has latching-low behavior. After it is read, it is updated to the current value of the link_status variable.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.3.1** *P* **53** *L* **42** # 61

Mendo, Carmen KDPOF

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

Typo: ".. to a MLCC codeword ..".

SuggestedRemedy

Should read: ".. to an MLCC codeword .." (consistent with other occurrences and more usual).

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.4.4** *P* **62** *L* **1** # 62

Mendo, Carmen KDPOF

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

The interpretation of the formulas to get to the final expression and range for y (output to THP) is confusing.

SuggestedRemedy

Should clarify the interpretation / handling of intermediate step u, either in Figure 114-32 or in the text.

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.4** *P* *L* # 63

Stassar, Peter Huawei Technologies

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

Link segment is a "classical" term. Need to correlate it to the recently (in optical clauses) introduced term "channel". Perhaps it should be done as in Clauses 87 and 88, where it is stated "The fiber optic cabling model (channel) defined here is the same as a simplex fiber optic link segment. The term channel is used here for consistency with generic cabling standards."

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.4.3** *P* *L* # 64

Stassar, Peter Huawei Technologies

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

Same as comment to Clause 114.5.4.1

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.4** *P* *L* # 65

Stassar, Peter Huawei Technologies

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

The sentences "The PMD subject to this clause is for a plastic optical fiber cable with a multimode optical fiber IEC 60793-2-40 sub-category A4a.2. The cable is duplex." should be phrased differently.
Need to be changed to (or similar):
"The fiber optic cable requirements are satisfied by cables containing IEC 60793-2-40 sub-category A4a.2 (multimode plastic optical fiber). A connection is established by two fibers, one for each direction.". Please check 88.11.1 as a reference.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.5.3** *P* *L* # 66

Stassar, Peter Huawei Technologies

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

"Under these conditions, a 1000BASE-RHx PHY shall be able to provide a BER less than 10-12", remove the words "be able to".

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.6.7** *P* *L* # 67
Stassar, Peter Huawei Technologies

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

Modify "Based on the above definitions, the positive and negative output droops" to "Based on the above definitions, the positive output droop DO+ and the negative output droop DO-"

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.2.2** *P* *L* # 68
Stassar, Peter Huawei Technologies

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

"Assuming that implementation of Equation (114-25) ideally linear"
This part of the sentence should be removed.
The definition of ER is independent of whether the transmitter is assumed linear or not and the AOP is a measured value, not a calculated value. If the transmitter is not sufficiently linear then the calculated AOP is different from the measured AOP. Therefore ER and AOP are determined by measurement and not by formulas 114-26 and 114-27

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.4.1** *P* *L* # 69
Stassar, Peter Huawei Technologies

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

This intent of this clause is not clear. The figure clearly isn't "insertion loss", but probably intended to be "link segment transfer characteristics". What is the source of this information? How is it established that individual links meet this requirement? By specification or measurement? Is this frequency response not launch dependent? Measurement would be required to be much better than 1/100 of a dB at 8 MHz.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.4.2** *P* *L* # 70
Stassar, Peter Huawei Technologies

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

Same as to Clause 114.5.4.1

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.5.1** *P* *L* # 71
Stassar, Peter Huawei Technologies

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

"A 1000BASE-RHx transmitter shall meet the specifications at TP2 defined in Table 114-8 and the mode power distribution (MPD) shall be higher than the lower bound limit defined in Table 114-9 per measurement techniques defined in 114.5.6. Specification for transmit MPD is illustrated in Figure 114-51." Are the specified launching conditions indeed 1m after the transmitter?
It is not possible to judge the completeness of this specification before the information indicated in the editor's note in Clause 114.5.6.8 has become available.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **5.5.3** *P* *L* # 72
Stassar, Peter Huawei Technologies

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

It is not clear/evident why the average optical power for reliable link establishment for receiver RHC is -17dBm for segment type II and -18.5dBm for segment type III. Is this a result of link segments with different bandwidth? One would expect that a more narrow type III would give a value higher than for type II and not lower

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.5** *P* **97** *L* **6** # 73
Takahashi, Satoshi POF promotion

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

"Receptical" is not generally used for this meaning.

SuggestedRemedy

Change "receptical" to "receptacle"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.5** *P* **97** *L* **11** # 74
Takahashi, Satoshi POF promotion

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

"Receptical" is not generally used for this meaning.

SuggestedRemedy

Change "receptical" to "receptacle"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.12.1** *P* **114** *L* **13** # 75
Takahashi, Satoshi POF promotion

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

"Clause 21" is written in green.

SuggestedRemedy

Write it in black. Same for line 44.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.5** *P* **97** *L* **3** # 76
Takahashi, Satoshi POF promotion

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

"Receptical" is not generally used for this meaning.

SuggestedRemedy

Change "receptical" to "receptacle"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.5.1** *P* **97** *L* **22** # 77
Takahashi, Satoshi POF promotion

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

Temperature shall be specified because center wavelength depends on the ambient temperature.

SuggestedRemedy

"... the specifications at TP2 defined in Table 114-8 for all the temperature range defined in Table 114-14 and ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.5.1** *P* **99** *L* # 78
Takahashi, Satoshi POF promotion

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

Angle interval in Table 114-9 seems to be too narrow.

SuggestedRemedy

Set coarse angle interval, e.g. 5 degree.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.4.1** *P* **94** *L* # 79
Takahashi, Satoshi POF promotion

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

Figure 114-48 and table 114-5 must be for segment type III (15m), Figure 114-50 and table 114-7 are for segment type I (50m).

SuggestedRemedy

Swap Figure 114-48 with 114-50.
Swap table 114-5 with 114-7.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 80
Grow, Robert RMG Consulting

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

P802.3 has been approved.

SuggestedRemedy

If IEEE Std 802.3-2015 is published before the next draft, update instances of 802.3-201x and 802.3-20xx with 802.3-2015. (Probably just headers and frontmatter.)

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **20** *L* **40** # 81
Grow, Robert RMG Consulting

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

Looks like we failed to include definitions of our port types.

SuggestedRemedy

Add:
1.4.x 1000BASE-H: An IEEE 802.3 physical coding sublayer for 1000 Mb/s serial operation. (See IEEE Std 802.3, Clause 114.)

1.4.x 1000BASE-RHA: IEEE 802.3 PMD specifications for 1000 Mb/s serial transmission using red wavelength with optical budget tailored for home and other consumer application requirements. (See IEEE Std 802.3, Clause 114.)

1.4.x 1000BASE-RHB: IEEE 802.3 PMD specifications for 1000 Mb/s serial transmission using red wavelength with optical budget tailored for industrial application requirements. (See IEEE Std 802.3, Clause 114.)

1.4.x 1000BASE-RHC: IEEE 802.3 PMD specifications for 1000 Mb/s serial transmission using red wavelength with optical budget tailored for automotive application requirements. (See IEEE Std 802.3, Clause 114.)

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.3** *P* **19** *L* **18** # 82
Grow, Robert RMG Consulting

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

P802.3bw has been approved by the SASB.

SuggestedRemedy

Update editing instruction and delete from list references included in IEEE Std 802.3bw-201x. The following differences should be retained and changes coordinated with P802.3bp:
IEC CISPR 25:2009 (bw has an older reference)
IEC 62215-3 (not included in bw)

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **21** *L* **23** # 83
Grow, Robert RMG Consulting

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

I note that IEEE Std 802.3bw includes a number of changes to add they PHY type to appropriate definitions, but we haven't

SuggestedRemedy

Add test for to describe 1000BASE-RH PHY types to:
1.4.193 End-of-Stream Delimiter (ESD):
1.4.326 Physical Coding Sublayer (PCS):
1.4.327 Physical Layer entity (PHY):
1.4.328 Physical Medium Attachment (PMA) sublayer:
1.4.353 receiver training:
1.4.390 Start-of-Stream Delimiter (SSD):
1.4.393 symbol:
1.4.394 symbol period:
1.4.395 symbol rate (SR):

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.2** *P* **23** *L* **29** # 84

Grow, Robert — RMG Consulting

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

With the addition of multiple PHY types, we need to update some of the clause 30 attributes and clause 45 specifications.

SuggestedRemedy

Page 23, line 29, replace with
1000BASE-RHA Plastic optical fiber PHY as specified in Clause 114.
1000BASE-RHB Plastic optical fiber PHY as specified in Clause 114.
1000BASE-RHC Plastic optical fiber PHY as specified in Clause 114.

Page 23, line 39, should be "for a 1000BASE-RHx PHY,".

Page 25, line 19, need three listings.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.3** *P* **37** *L* **51** # 85

Dawe, Piers — Mellanox

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

As this PHY doesn't do CSMA/CD, only full duplex, but does have an EEE option,

SuggestedRemedy

Should this refer to Annex 4A rather than Clause 4?

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.3** *P* **38** *L* **3** # 86

Dawe, Piers — Mellanox

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

Obsolete label.

SuggestedRemedy

Change LAN CSMA/CD LAYERS to ETHERNET LAYERS
Scrub the draft for any other obsolete features.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.8** *P* **102** *L* **42** # 87

Dawe, Piers — Mellanox

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

When you have the captured waveform you can find AOP, rise and fall time, ER and transmitter overshoot from it and avoid several separate measurements with very untypical patterns.

SuggestedRemedy

Explain how to use this measurement to find AOP, rise and fall time, ER and transmitter overshoot. Make test mode 3 optional.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **21** *L* **1** # 88

Dawe, Piers — Mellanox

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

This "definition" of optical modulation amplitude is incorrect (read any of the clauses that use OMA), there is already a definition for OMA at 1.4.303, and this draft does not use the term anyway.

SuggestedRemedy

Delete it.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.1** *P* **100** *L* **42** # 89

Dawe, Piers Mellanox

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

This isn't a test spec - understanding that, we don't write "X shall be measured" any more (last done in Clause 72) because there is no requirement to measure - just to comply with the spec for X (802.3 used to have a test spec but it was withdrawn - customers and suppliers can negotiate test strategies outside of 802.3 if they wish).
See e.g.
58.7.2 Wavelength and spectral width measurements
The wavelength and spectral width (RMS) shall meet specifications according to TIA-455-127-A, under modulated conditions using a valid 100BASE-X signal.
or
95.8.2 Center wavelength and spectral width
The center wavelength and RMS spectral width of each optical lane shall be within the range given in Table 95–6 if measured per TIA/EIA-455-127-A or IEC 61280-1-3. The lane under test is modulated using one of the test patterns specified in Table 95–10.

SuggestedRemedy

Revise all five "shall be measured" so that the requirement applies to the thing to be measured, not to the action of measuring or testing.
Similarly for "shall be tested" in 114.10.4.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.5.3** *P* **99** *L* **21** # 90

Dawe, Piers Mellanox

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

This still needs a more specific receiver performance spec - just saying it should work with compliant transmitter and link segment is too open to interpretation. Especially as the link segment seems to exclude losses from inline connections, and the effect of reflections is not clear.

SuggestedRemedy

Add stressed sensitivity specs and define an example way for testing performance at full stress. E.g. use POF of the length needed to create the minimum bandwidth from minimally compliant (slow) Tx and link segment, adjust test Tx power to receive power after minimum product Tx power and maximum link segment and connection losses. Use e.g. sinusoidal interferer at test Tx to emulate effect of reflections if necessary. Use jitter source at test Tx if necessary.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.4** *P* **93** *L* **40** # 91

Dawe, Piers Mellanox

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

I don't think defining link segment attenuation without the insertion loss produced by inline connections is workable.

SuggestedRemedy

Either define link segment attenuation in the usual way, including inline connections, or forbid inline connections. If you allow them, you probably want some maximum loss for all the inline connections in a link segment, because if the connection loss is very high, the mode profile is probably not what you want.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.10.4** *P* **112** *L* **38** # 92

Dawe, Piers Mellanox

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

"shall ..., or as agreed to between the customer and the supplier" is unacceptable, because this is a standard, not a procurement spec. There is no concept of customer or supplier, and no-one has the authority to vary the spec.
Many other clauses say e.g.
95.9.5 Electromagnetic emission
A system integrating a 100GBASE-SR4 PMD shall comply with applicable local and national codes for the limitation of electromagnetic interference.
Another automotive-oriented clause says:
96.9.2.2 Electromagnetic Compatibility
A system integrating the 100BASE-T1 PHY shall comply with all applicable local and national codes. In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference.
But this seems confused: the first sentence is wider than the subject of the subclause.

SuggestedRemedy

Change to:
A system integrating the 1000BASE-RHx PHY shall comply with all applicable local and national codes for the limitation of electromagnetic interference. In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.6.9** *P* **103** *L* **10** # 93

Dawe, Piers Mellanox

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

Need to define the jitter corner frequency: what jitter frequency is low enough that the receiver is expected to track it? See any recent optical clause, e.g. 95.8.8.3 J2 and J4 Jitter, "J4 Jitter is defined using a clock recovery unit as in 95.8.7" which refers indirectly to 86.8.3.2:
A clock recovery unit (CRU) is used to trigger the oscilloscope for
mask measurements, as shown in Figure 52–9. It has a high-frequency corner bandwidth of 4 MHz and a slope of –20 dB/decade. The CRU tracks acceptable levels of low-frequency jitter and wander.

SuggestedRemedy

Add a similar clock recovery unit, or if a description with a common reference clock is preferred, state what low frequencies should be filtered out of the measurement.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.5.4** *P* **100** *L* **11** # 94

Dawe, Piers Mellanox

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

This heading says "Worst-case 1000BASE-RHx link power budget and penalties" but unlike nearly all other power budgets in optical clauses - it's just an optical loss budget, does not include any penalties such as ISI from link segment bandwidth, RIN, reflections. See 89.6.4 Comparison of power budget methodology - that clause includes some penalties in its power budget.
A power budget can be written for an equalising system too.

SuggestedRemedy

Either declare what the penalties are (you know the worst bandwidth, precoding method, FEC code and so on), or change the name to e.g. "optical loss budget".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.10.1** *P* **111** *L* **52** # 95

Dawe, Piers Mellanox

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

Temperature isn't an interoperability issue and is usually not specified by 802.3 but by other specs: e.g.
95.9.6 Temperature, humidity, and handling
The optical link is expected to operate over a reasonable range of environmental conditions related to temperature, humidity, and physical handling (such as shock and vibration). Specific requirements and values for these parameters are considered to be beyond the scope of this standard.

SuggestedRemedy

Change:
1000BASE-RHx implementations shall be declared as compliant over one of three complete ranges as specified in Table 114–14.
to:
The optical link is expected to operate over a reasonable range of environmental conditions related to temperature, humidity, and physical handling appropriate to the intended environment (e.g., automotive, industrial or home networking). A 1000BASE-RHx implementation may be declared as compliant over one of the three complete ranges specified in Table 114–14.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **20** *L* **40** # 96

Dawe, Piers Mellanox

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

These are people's names. One seems to have an extra letter. Inconsistent punctuation.

SuggestedRemedy

Change bose, ray-chaudhurim hocquenghem to:
Bose, Ray-Chaudhuri, Hocquenghem

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.10.3** *P* **112** *L* **19** # 97

Dawe, Piers — Mellanox

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

"Environmental safety" - what's that?

SuggestedRemedy

Change to "Environment".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.2** *P* **37** *L* **46** # 98

Dawe, Piers — Mellanox

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

I do not want to pay CHF158 for ISO 80000-2 just so the clause can use gimmicky, unnecessary notation that I don't want to read. It doesn't work - when the reader reads the gimmick he sees a typo, doesn't know that ISO 80000-2 explains it.

SuggestedRemedy

Delete reference to ISO 80000-2 here and in 1.3. Don't use arcane notation.
Instead of [a, b), just write a <= x < b.
Define roundup and rounddown rather than using graphics that aren't even characters that I could select and search for.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.6** *P* **39** *L* **19** # 99

Dawe, Piers — Mellanox

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

Gratuitous capitals. Text in figures, like anywhere else except layer diagrams, should be in normal mixed upper and lower case. This is a block diagram not a layer diagram.

SuggestedRemedy

Change PCS TRANSMIT, PMD TRANSMIT, PMD RECEIVE, PHY CONTROL, LINK MONITOR, PHD MONITOR, ADAPTIVE EQ ESTIMATOR, ADAPTIVE THP PROTOCOL, CLOCK RECOVERY, PHY QUALITY MONITOR, PCS RECEIVE, EQUALIZER to PCS transmit, PMD transmit, PMD receive, PHY control, Link monitor, PHD monitor, Adaptive equalization estimator, Adaptive THP protocol, Clock recovery, PHY quality monitor, PCS receive, Equalizer.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.3** *P* **37** *L* **50** # 100

Dawe, Piers — Mellanox

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

Obsolete terminology: the phrase "IEEE 802.3 CSMA/CD LAN Model" hasn't been used since Clause 40.

SuggestedRemedy

Update text and title of Figure 114-1 to match recent clauses.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.3** *P* **90** *L* **53** # 101

Dawe, Piers — Mellanox

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

Some of the test mode patterns are quite complicated and would not be generated by a PMD. Also, the test modes may be controlled by the 1000BASE-H *PCS* control register. Other recent PHYs have the pattern generators in the PMA, but this PMA doesn't seem to do that sort of thing.

SuggestedRemedy

Move the test modes subclauses to the PCS section.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.4** *P* **93** *L* **23** # 102

Dawe, Piers — Mellanox

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

There are normative PMD requirements before and after this subclause, which is confusing for the user when considering compliance.

SuggestedRemedy

Move the "Link segment characteristics" subclause to later, e.g. just before the MDI section as in other optical clauses.

Proposed Response *Response Status* **O**

Cl **114** SC **114.3** P **64** L **1** # 103

Dawe, Piers — Mellanox

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

Figure 114-3 shows a block called "PMA" but the PMD service interface connects directly to the PCS, and the "PMA" block is connected to the PCS, OAM and EEE blocks and nothing else. So it's not really a PMA.

SuggestedRemedy

Rearrange the subclause headings so that the PCS control and monitor functions are in the PCS. Suggest the THP function and its control could be in the PMA. Also, clock recovery is typically in the PMA.

Proposed Response *Response Status* **O**

Cl **114** SC **114.3.3** P **74** L **6** # 104

Dawe, Piers — Mellanox

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

"This estimation ... is to be performed continuously in order to track the channel response variations." Needs more specification: how fast does it have to track, how deep could the variations be that it must track, how could this be tested?

SuggestedRemedy

Specify how fast it has to track, how deep the variations could be that it must track, and how this could be tested.

Proposed Response *Response Status* **O**

Cl **114** SC **114.5.2.2** P **89** L **7** # 105

Dawe, Piers — Mellanox

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

It seems "affine" just means linear, here, but there is no need for such obfuscation.

SuggestedRemedy

Delete "affine".

Proposed Response *Response Status* **O**

Cl **114** SC **114.5.1.2.3** P **86** L **17** # 106

Dawe, Piers — Mellanox

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

"The effect of receipt of this primitive is unspecified" - is, or should be - false. Standards where the client is out of the standard say this, but here there is no excuse. This PMD has only one possible client, which seems to be the PCS.

SuggestedRemedy

Change to "The effect of receipt of this primitive by the client (the PCS) is specified in 114.x.y."
Similarly for 114.5.1.5.3.

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.3.4** P **45** L **51** # 107

Dawe, Piers — Mellanox

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

What does "free counter" mean? The term doesn't appear anywhere in 802.3-2015. It looks like this function divides the clock by two.

SuggestedRemedy

Use whatever the usual term in 802.3 is. Also in Figure 114-12.

Proposed Response *Response Status* **O**

Cl **114** SC **114.2.4.3** P **52** L **19** # 108

Dawe, Piers — Mellanox

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

Z2 and RZ2 lattices?

SuggestedRemedy

If this is relevant, use more accessible terminology, and/or explain it. If it isn't relevant, remove the jargon.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **21** *L* **21** # 109
Ortiz Rojo, David KDPOF

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

It seems that OMA is not used in the current version of the document.

SuggestedRemedy

Remove definition from the document.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.50.4** *P* **29** *L* **36** # 110
Ortiz Rojo, David KDPOF

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

Reference to section 114.8 is incorrect. Wrong reference also appears in 45.2.3.51 sections 9 through 11 on the same page.

SuggestedRemedy

Change it to 114.4

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.8** *P* **31** *L* **26** # 111
Ortiz Rojo, David KDPOF

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

Reference to section 114.8 is incorrect. Wrong reference also appears in 45.2.3.51 sections 9 through 11 on the same page. It also appears on page 32, section 45.2.3.51.15, line 16.

SuggestedRemedy

Change it to 114.4

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.51.9** *P* **31** *L* **28** # 112
Ortiz Rojo, David KDPOF

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

Meaning of the bit is not fully clear, and the functionality is sometimes 'repeated or generated' or 'received or generated'.

SuggestedRemedy

Section 114.4 already gives the details of when LPI is generated on the GMII. For simplicity and simmetry with 45.2.3.51.8 it would be best to replace "received or generated"/"repeated or generated" by generated.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.1.5** *P* **38** *L* **51** # 113
Ortiz Rojo, David KDPOF

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

"GMII data streams" should be singular, like in title of 114.2.4.1

SuggestedRemedy

Replace by "GMII data stream".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.1** *P* **40** *L* **53** # 114
Ortiz Rojo, David KDPOF

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

Link to section 114.5. is broken.

SuggestedRemedy

Fix link and change to section 114.4

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **64** *L* **29** # 115

Ortiz Rojo, David KDPOF

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

"to advertise Energy-Efficient Ethernet (EEE) is supported by the implementation and enabled ..." could be rephrased by "to advertise that Energy-Efficient Ethernet (EEE) is supported by the implementation and that it is enabled..."

SuggestedRemedy

Per comment

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7.1** *P* **104** *L* **36** # 116

Ortiz Rojo, David KDPOF

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

verb "perform" should be plural.

SuggestedRemedy

Replace "perform" by "performs".

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.3** *P* **70** *L* **40** # 117

Ortiz Rojo, David KDPOF

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

The sentence is describing functionality that is implemented in another state diagram. Detailed description should be given only in the relevant state diagram and only the state variable should be refered.

SuggestedRemedy

Change "When both link partners signal reliable payload data reception by asserting OK in the PHD.RX.LINKSTATUS field, the bidirectional link is established (link_status = OK) ..." by "Once bidirectional link is established (link_status = OK) ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.7.2** *P* **105** *L* **8** # 118

Ortiz Rojo, David KDPOF

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

It is not clear which bits this paragraph is referring to.

SuggestedRemedy

To solve the issue, the following sentence could be added to the beginning of the paragraph: "The status of the three possible outstanding OAM messages can be decoded from the values of the control bits of register 3.500. The table ..."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.2.2.1** *P* **42** *L* **41** # 119

Ortiz Rojo, David KDPOF

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

The matlab initialization of the MLS generator does not match with the description in the text above.

SuggestedRemedy

In the matlab description change the line: "r=[r zeros(1,25-length(r))];" with "r=[zeros(1,25-length(r)) r];"

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.1** *P* **64** *L* **45** # 120

Ortiz Rojo, David KDPOF

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

For proper operation of the receiver, it is neccessary that the REMPHD fields are available before the end of the transmit block that carries the PHD (in general the transmitter anounces in a given PHD information relative to the next transmit block, for example, which THP coefficient set is going to be applied). This requirement is missing in this paragraph.

SuggestedRemedy

Add a sentence indicating the requirement. For example the following sentence could be added: "The value of the REMPHD fields must be available before the end of the transmit block that carries them, so decoding and validation of the complete PHS must be completed between the end of the reception of PHS13 and the end of the transmit block."

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.3.2.4** *P* **71** *L* **1** # 121

Ortiz Rojo, David KDPOF

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

Current description of the PMA phy quality monitor SD and and link monitor SD do not guarantee that both link partners transition their link_status variables to link_status=OK simultaneously.
For example, when the local PHY loc_rcv_status variable went OK many transmit blocks before, the remote PHY will have already assigned its rem_rcv_status variable to OK many transmit blocks before. In this scenario, when the remote PHY receives a new_varn_est_event with a noise variance that is below the threshold, it will transition its internal loc_rcv_status variable to OK inmediately, and will transition to the link_status=OK inmediately. However the local phy have to wait to receive a frame with the REMPHD.RX.LINKSTATUS=OK, something, which implies that it will transition to the link_status=OK with a minimum delay of about one transmit block.
However the link_status should transition to the OK value simultaneously in both link partners to ensure that both of them enable the GMII interface simultaneously, and also to guarantee a correct operation of EEE functionality.

SuggestedRemedy

To solve this issue the following changes must be introduced:
Modify the link monitor state diagram of figure 114-36 to ensure that the transition from LINK_DOWN to LINK_UP when rem_rcv_status goes to OK is delayed until a new_rxblock_event is received.
Modify the phy quality monitor diagram of figure 114-42 to ensure that there is a delay of two 'new_txblock_event' between the assignment of LOCPHD.RX.LINKSTATUS<=OK and the assignmet of loc_rcv_status<=OK. This delay is only neccesary when the previous values of the variables is NOT_OK.

Proposed Response *Response Status* **O**

Cl **114** *SC* **114.5.3.1** *P* **91** *L* **41** # 122

Ortiz Rojo, David KDPOF

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

The description of test mode 1 in this paragraph suggests that test mode 1 may be entered dynamically. However a dynamic implementation of test mode 1, in which the mode can be entered and exited dynamically adds an uneeded extra complexity and cost to the implemenation. Moreover this dynamic functionality is not needed, as this is a test mode intended to be used in a controlled environment (as is also the case of the other test modes). Appart from this the requirement to clear the counter on any change of the link_status variable inhibits the capability of monitorning the errors that might happen around the link transitions in a debug environment, but does not add any value for a normal BER test, as the error counter can be cleared right after link establishment by simply reading the clause 45 register that holds the counter value.

SuggestedRemedy

Change lines from 41 to 50 to indicate that the operation in test mode 1 is static, that is, the transmitter only changes the operating mode from test mode 1 to normal mode after a resynchronization. Also remove requirement for counter clearing on changes of link_status variable.

To do this the lines 41 to 50 might be replaced by the following:
"The PCS shall announce to the link partner this test mode in the transmitted PHD using the field PHD.TX.NEXT.MODE (see 114.3.1). The operating mode of the transmitter encoded in the field PHD.TX.NEXT.MODE is selected at PMA reset, and does not change value unless a PMA reset takes place. The receiver must reconfigure to support the indicated operating mode, for normal operation (64B/65B decoder connected to the binary descrambler), or for BER test (counter connected to the binary descrambler)."

Line 52 to P92, line 2, eliminate from first stop.

In Pg. 33, change from line 23 to 25 "These bits are reset to all zeros …"
to
"These bits are reset to all zeros when the counter is read. The counter is held at all ones in the case of overflow."

Proposed Response *Response Status* **O**