Cl **45** *SC* **45.2.1.146** *P* **48** *L* **22** # 3617
Hajduczenia, Marek Bright House Networks

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

"15 least significant bits of the PHY ranging offset register." is not a full sentence, remove "."

SuggestedRemedy

Same for 1.1925.15:0 and 1.1926.15:0

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.147** *P* **48** *L* **32** # 3618
Hajduczenia, Marek Bright House Networks

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

Serial "and" and missing ","

SuggestedRemedy

Change "The DS PHY data rate registers 1.1927, 1.1928 and 1.1929" to "The DS PHY data rate registers 1.1927, 1.1928, and 1.1929"

Same change in 45.2.1.148

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.147** *P* **48** *L* **32** # 3619
Hajduczenia, Marek Bright House Networks

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

Unnecessarily complex statement: "The DS PHY data rate registers 1.1927, 1.1928 and 1.1929 form an unsigned 37-bit real number with three
fractional bits that conforms to the UQ34.3 format."

SuggestedRemedy

Change to "Registers 1.1927, 1.1928, and 1.1929 represent the downstream PHY data rate, expressed in units of b/s in the UQ34.3 format real number." - details of how many fractional bits are used and how many bits there are in total is already part of the UQ34.3 designator.
Same change in 45.2.1.148

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to:
"Registers 1.1927, 1.1928, and 1.1929 represent the downstream PHY data rate, in the UQ34.3 format real number."
Strike "The number indicates the downstream data rate in units of b/s." as this information is well documented in the normative variable definition.

Cl **45** *SC* **45.2.1.147** *P* **48** *L* **34** # 3620
Hajduczenia, Marek Bright House Networks

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

"Register 1929 is the most significant part of this number with bit 1.1929.4 being the MSB while register 1927 is the least significant part with bit 1.1927.0 being the LSB. " - in previous registers, a much simpler (and clearer format) was used

SuggestedRemedy

Change to "Bit 1.1929.4 is the MSB and bit 1.1927.0 is the LSB of the value.". Simialr change needed in 45.2.1.148

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.160** *P* **53** *L* **19** # 3621
Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"These bits indicate the time required by a CNU to respond to an EPoC Message Block received on the PHY Link and are a reflection of the PhyLinkRspTm defined in 102.2.6.3." - information on units is missing here - ms, ns, blocks, seconds, etc.

SuggestedRemedy

Add information on the units for this register

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Units are clearly specified in the normative definition of PhyLinkRspTm in 102.2.6.3. Duplicate specification can lead to synchronization issues.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **45** *SC* **45.2.1.149** *P* **49** *L* **40** # 3622
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

Text is broken by tables.

SuggestedRemedy

Please set the orphan control on tables and text to make sure that text is not broken by tables.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Setting orphan controls causes excessive white space on previous pages which the commenter has objected to in previous comments rounds.

Cl **45** *SC* **45.2.1.149** *P* **48** *L* **50** # 3623

Hajduczenia, Marek Bright House Networks

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

Description in 45.2.1.149 is not consistent with style used in other registers for some reason.

SuggestedRemedy

Change text to read:
"Registers 1.1933 and 1.1934 form a 32-bit 10GPASS-XR PMA/PMD FEC codeword counter. Registers 1.1933 and 1.1934 shall be reset to all zeros when 1.1933 and 1.1934 registers are read by the management function or upon 10GPASS-XR PMA/PMD reset. When registers 1.1933 and 1.1934 are read, register 1.1933 is read first and register 1.1934 is latched when (and only when) register 1.1933 is read. These registers are a reflection of the variable FecCodeWordCount defined in 101.3.3.1.6."
Update PICS accordingly.

Simialr changes in 45.2.1.150 and 45.2.1.151

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The wording & style are directly taked from similar registers existing in the standard (see 45.2.1.94, 45.2.1.95, 45.2.1.103, 45.2.1.106 and others).

Cl **45** *SC* **45.2.1.149** *P* **49** *L* **2** # 3624

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

The way number is mapped into register space in Table 45–98q and Table 45–98r is just odd: lower 13 bits first, then fraction, then middle 16, reserved block, and remaining 5 bits.

SuggestedRemedy

Change allocation to 1.1927.15:0 to cover bits [15:0], 1.1928.15:0 to cover bits [31:16], 1.1929.15:14 to cover bits [33:32], and then fractional bits in 1.1929.13:11. We will be left with 1.1929.10:0 for reserved space.

Aplly the change to Table 45–98q and Table 45–98r alike.

Remove all references to "UQ34.3 formated number" - it does not matter at all what format the original number is in. Replace with "downstream PHY data rate" in Table 45–98q and "upstream PHY data rate" in Table 45–98r

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The mapping assigns the least significant bit to the lowest numbered register/bits and the highest significant numbers to the most significant bits. Reserved bits are at the logical top of the structure. The only reason this look unusual is due to the table style where higher numbered bits appear first.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **45** *SC* **45.2.1.149** *P* **49** *L* **44** # 3625

Hajduczenia, Marek Bright House Networks

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

missing space in "Total FEC codewords counter[15:0]" for 1.1933.15:0 and 1.1934.15:0

SuggestedRemedy

Insert missing space in front of "["

Simialr changes in Table 45–98t and Table 45–98u

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.149** *P* **49** *L* **46** # 3626

Hajduczenia, Marek Bright House Networks

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

Designators RO, R/W, NR, etc. are used with different formatting. In some register tables, they are listed one under another, with no "," between them (less common) and in others, one after another separated by ",".

SuggestedRemedy

Align the format. Make sure that where multiple designators are listed, they are listed one after another and separated with ",". One immediate location where fix is needed is Table 45–98g

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Check all tables with multiple entries, use comma space ", " for separator.

Cl **45** *SC* **45.2.1.152** *P* **51** *L* **5** # 3627

Hajduczenia, Marek Bright House Networks

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

missing space in "RO,NR"

SuggestedRemedy

insert missing space

The same in Table 45–98w, Table 45–98x, Table 45–98y, Table 45–98z, Table 45–98aa, Table 45–98ab, Table 45–98ac,

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
see cmt# 3626

Cl **45** *SC* **45.2.1.161** *P* **54** *L* **19** # 3628

Hajduczenia, Marek Bright House Networks

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

"0 = DS data path 32-QAM modulation not supported" seems to have an extra space at teh begining, making it right shifted relative to other descriptions in this table

SuggestedRemedy

Remove the extra space / align the text left.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.162** *P* **55** *L* **24** # 3629

Hajduczenia, Marek Bright House Networks

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

Bit 1.1949.15 seems like a binary flag (yes / no). It is customary to define the values in Description field then

SuggestedRemedy

Change "Value of PHY Link differential TS is valid" to
"1 = value of PHY Link differential TS is valid
0 = value of PHY Link differential TS is not valid"

Change text in 45.2.1.162.1 to use "one" and "zero" spelled out for consistency. Also, the sentence form needs alignment with the description of ther registers for EPoC.

When bit 1.1949.15 is read as a one, the value in PHY Link differential TS is valid. When bit 1.1949.15 is read as a zero, the value in PHY Link differential TS is not invalid. This bit is a reflection of the PhyLnkDiffTS_Valid variable defined in 101.5.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.162.2** *P* **55** *L* **43** # 3630

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *MSB/LSB*

Description of bits 1.1949.7:0 is missing information on MSB / LSB as well as units in which the said difference is expressed

SuggestedRemedy

Add the missing information

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Cmt# 3669

Cl **45** *SC* **45.2.1.162.3** *P* **55** *L* **49** # 3631

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Multiple issues with the description of bits 1.1950.14:0:
- wording does not read really English (rather sloppy sentences)
- no MSB / LSB indication

SuggestedRemedy

Reword to read:

Bits 1.1951.14:0 indicate CNU_ID for the CNU for which the value of PhyLnkDiffTS variable is calculated. Bits 1.1951.14:0 are valid only for the 10GPASS-XR-D PMA/PMD. Bits 1.1951.14:0 are reserved for 10GPASS-XR-U PMA/PMD and always return zero on read. Bits 1.1951.14:0 are a reflec
tion of the PhyLnkDiffTS_CNU variable defined in 101.5.1.

Note that information on MSB/LSB is still missing and needs to be added to k now where the CNU_ID starts and ends.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change from
"Bits 1.1951.14:0 indicate on which CNU the value of PhyLnkDiffTS is calculated. Only for timestamps received from the CNUs whose CNU_ID matches the value of these bits are used in the calculation. These bits are only valid in the CLT, in the CNU they are reserved and always read as zero. These bits are a reflection of the PhyLnkDiffTS_CNU variable defined in 101.5.1."
to
"Bits 1.1951.14:0 indicate which CNU the value of PhyLnkDiffTS is to be calculated for. CNUs whose CNU_ID matches the value of these bits are used in the calculation. These bits are only valid in the CLT, in the CNU they are reserved and always return zero. These bits are a reflection of the PhyLnkDiffTS_CNU variable defined in 101.5.1."

Cl **00** *SC* **45.2.7a.5** *P* **61** *L* **42** # 3632

Hajduczenia, Marek Bright House Networks

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

Double space at the end of the sentence in line 42

SuggestedRemedy

Chane ". ." to "."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Cl 00
Also found at pg/ln in
Cl 45 58/28,
Cl 100 94/33, and
Cl 102 147/2

Cl **45** *SC* **45.2.7a.5.1** *P* **61** *L* **46** # 3633

Hajduczenia, Marek Bright House Networks

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

Sentence does not read right: "Bit 12.10240.3 when read as a one indicates that the values in the 10GPASS-XR receive MER measurement registers are valid for the channel indicated by the Receive MER channel ID."

Also, it is typical to reference bit numbers, and not name of register bits

SuggestedRemedy

Change to "When read as a one, bit 12.10240.3 indicates that the values in the 10GPASS-XR receive MER measurement registers are valid for the OFDM channel indicated by bits 12.10240.2:0."

In line 49, replace "the Receive MER channel ID" with "bits 12.10240.2:0". The same replacement in Table 45–211f in Description field.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace para with
"When read as one, bit 12.10240.3 indicates the 10GPASS-XR receive MER measurement registers are valid. When read as zero, this bit indicates the 10GPASS-XR receive MER measurement registers are not valid. This bit is a reflection of the variable RxMER_Valid defined in 100.2.12.3.1."

Cl **45** *SC* **45.2.7a.5.2** *P* **62** *L* **20** # 3634

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

It is not clear how the value stored in bits 12.10240.2:0 is then translated into register range 12.10241 through 12.12287.

There is also inconsistency between footnote b) and text "In the CLT these bits are read only and will always read as a one."

SuggestedRemedy

modify text to read: "The value stored in bits 12.10240.2:0 identifies the OFDM channel for which registers 12.10241 through 12.12287 hold the MER measurement value. Bits 12.10240.2:0 are only valid for 10GPASS-XR-D PMA/PMD. Bits 12.10240.2:0 are reserved for 10GPASS-XR-U PMA/PMD and return a zero on read."
Remove footnote b)
Insert the following text in description field for 12.10240.2:0 under existing text:
2 1 0
0 0 1 = OFDM channel number 1
0 1 0 = OFDM channel number 2
0 1 1 = OFDM channel number 3
1 0 0 = OFDM channel number 4
1 0 1 = OFDM channel number 5
other values are reserved

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to
"Bits 12.10240.2:0 form a pointer to one of the five possible OFDM channels in the EPoC network. These bits are a reflection of the variable RxMER_ChID defined in 100.2.12.3.1."

Cl **45** *SC* **45.2.7a.6** *P* **62** *L* **31** # 3635

Hajduczenia, Marek Bright House Networks

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

No such reister name: "Receiver MER Channel ID"

SuggestedRemedy

Replace "indicated by the Receiver MER Channel ID" to "indicated by bits 12.10240.2:0 (Receive MER channel ID)"

Same replacement in Table 45–211g in Description field (two occurences), and also on p/l: 63/4, 63/9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change Receiver to Receive

Cl **45** *SC* **45.2.7a.6** *P* **62** *L* **32** # 3636

Hajduczenia, Marek Bright House Networks

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

"Register 12.10241 reflects the receive MER measure for OFDM subcarriers number 2 and 3. Register 12.10242 reflects the receive MER measure for
OFDM subcarriers number 4 and 5. Finally, register 12.12287 reflects the receive MER measure for OFDM subcarriers number 4094 and 4095. " - what is "MER measure" ???

SuggestedRemedy

Modify to: "Register 12.10241 reflects the receive MER measured for OFDM subcarriers number 2 and 3. Register 12.10242 reflects the receive MER measured for OFDM subcarriers number 4 and 5. Finally, register 12.12287 reflects the receive MER measured for OFDM subcarriers number 4094 and 4095. ", which is not consistent with text in line 30.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "measure for" to "measured on" (3x)

To the end of the 1st sentence in this para add " except subcarriers one and two"

Cl **45** *SC* **45.2.7a.6** *P* **62** *L* **45** # 3637

Hajduczenia, Marek Bright House Networks

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

Which are first two subcarriers? "Note that the first two subcarriers are not reflected and are always excluded."

SuggestedRemedy

Modify "Note that the first two subcarriers are not reflected and are always excluded." to read "Note that the first two subcarriers (i.e., subcarriers number 0 and 1) are not reflected in register group 12.10241 through 12.12287 (10GPASS-XR receive MER measurement registers)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Changed cmt to Cl 45 , Scl 45.2.7a.6, pg 62 ln 35.

Cl **45** *SC* **45.2.7a.6** *P* **62** *L* **27** # 3638

Hajduczenia, Marek Bright House Networks

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

What are "reggisters" in "10GPASS-XR receive MER measurement reggisters"

SuggestedRemedy

Replace "reggisters" with "registers"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4.170a** *P* **26** *L* **32** # 3639
Hajduczenia, Marek Bright House Networks

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

"samples of the same symbol" - likely, "the same OFDM symbol" to be precise - the term "symbol" is ambiguous

SuggestedRemedy

Change "samples of the same symbol" to "samples of the same OFDM symbol"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The clarifying "OFDM" is clear from the context:
"1.4.170a cyclic prefix: A redundant set of samples prepended to an OFDM symbol"
Note that there are 3 uses of the term symbols in the sentence; one with OFDM and two without.

Cl **01** *SC* **1.4.294a** *P* **26** *L* **47** # 3640
Hajduczenia, Marek Bright House Networks

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

"A data transmission channel in which the transmitted data is carried over a large number of orthogonal QAM subcarriers." - whether the number is large or small is irrelevant to a definition

SuggestedRemedy

Change to "A data transmission channel in which the transmitted data is carried over a number of orthogonal QAM subcarriers."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4.345b** *P* **27** *L* **6** # 3641
Hajduczenia, Marek Bright House Networks

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

"a fixed point number" - "fixed point" is an adjective in this case, and should be spelled as "fixed-point"

SuggestedRemedy

Change "a fixed point number" to "a fixed-point number"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
The commenter is invited to correct a similar error on Wikipedia.org at https://en.wikipedia.org/wiki/Q_(number_format) which opens "Q is a fixed point number format where the number of fractional bits (and optionally the number of integer bits) is specified. ..."

Cl **30** *SC* **30.3.2.1.2** *P* **29** *L* **18** # 3642
Hajduczenia, Marek Bright House Networks

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

aPhyType lists today PCS clauses only. For example:

10GBASE-T Clause 55 10 Gb/s DSQ128
10GBASE-PR Clause 76 10/10G-EPON 10 Gb/s 64B/66B

yet for 10GPASS-XR lists also PMD clauses for some reason

SuggestedRemedy

Change "Clause 100, Clause 101, and Clause 102 up to 10 Gb/s 64B/66B OFDM downstream and up to 1.6 Gb/s 64B/66B OFDMA upstream" to "Clause 101 PCS up to 10 Gb/s 64B/66B OFDM downstream and up to 1.6 Gb/s 64B/66B OFDMA upstream"

Similar change in 30.3.2.1.3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.2.1.2** *P* **29** *L* **15** # 3643
Hajduczenia, Marek Bright House Networks

Comment Type **E** *Comment Status* **D** *CL30*

30.3.2.1.2 includes

ATTRIBUTE
APPROPRIATE SYNTAX:

whereas other attributes in Clause 30 do not list them

SuggestedRemedy

Remove

ATTRIBUTE
APPROPRIATE SYNTAX:

from 30.3.2.1.2

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This comment conflicts with #3898 which suggests adding this same text to the other CL 30 clauses. The TF needs to pick one method.

Cl **30** *SC* **30.5.1.1.2** *P* **29** *L* **47** # 3644
Hajduczenia, Marek Bright House Networks

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

Attribute aMAUType makes reference to PHYs for different speeds, e.g.:

10GBASE-PR-D3 One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream OLT PHY as specified in Clause 75

Whereas aMAUType in this draft lists PCS/PMA for some reason:

Coax cable distribution network PCS/PMA continuous downstream / burst mode upstream as specified in Clause 101

SuggestedRemedy

Change

Coax cable distribution network PCS/PMA continuous downstream / burst mode upstream as specified in Clause 101

to

10GBASE-XR Coax cable distribution network PHY continuous downstream / burst mode upstream PHY as specified in Clause 101

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change

"Coax cable distribution network PCS/PMA continuous downstream / burst mode upstream as specified in Clause 101"

to

"Coax cable distribution network PHY continuous downstream / burst mode upstream PHY as specified in Clause 101"

Cl **45** *SC* **45.2** *P* **33** *L* **9** # 3645
Hajduczenia, Marek Bright House Networks

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

"1.1899" in Table 45–3 should be shown in underline - this is the new value

SuggestedRemedy

Underline "1.1899" in Table 45–3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1** *P* **34** *L* **25** # 3646
Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *EZ*

In Table 45–3, "1.1952 through 1.32767" and "1.1952 through 1.1957" are incorrect.
Register 1.1952 is already in three times !!!

SuggestedRemedy

Change "1.1952 through 1.1957" to "1.1953 through 1.1958"
Change "1.1952 through 1.32767" to "1.1959 through 1.32767"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.4** *P* **34** *L* **38** # 3647
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

Reserved registers were aligned under 802.3bx D3.0 - please align per i-51 (http://www.ieee802.org/3/bx/comments/P8023-D3p0-Comments_Final_byCls.pdf)

SuggestedRemedy

Change "Reserved for future speeds" to "Reserved"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The comment response for referenced i-51 only states “Change the two instances of "reserved for future use" to "reserved" and does not include changing “Reserved for future speeds” Draft 3.2 of 802.3bx still includes "Reserved for future speeds" in this table row as do several other tables in Cl 45 outside the scope of 802.3bn. Perhaps a maintance request should be entered by the commentor.

Cl **45** *SC* **45.2.1.6** *P* **35** *L* **10** # 3648
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

Reserved reserved registers were marked as RO under 802.3bx D3.0 - please align per i-51 (http://www.ieee802.org/3/bx/comments/P8023-D3p0-Comments_Final_byCls.pdf)

SuggestedRemedy

Change 1.7.15:10 to RO
Change 1.7.7:6 to RO

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.14a.1** *P* **37** *L* **25** # 3649

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

"When read as a one, bit 1.17.1 indicates that the PMA/PMD is able to operate as " - in the scope of this document, "PMA/PMD" is clear enough. When merged into the main standard, "PMA/PMD" will become ambiguous

SuggestedRemedy

Add qualifier "10GPASS-XR" before each "PMA/PMD" and "PHY" instance in Clause 45. In this case, change "When read as a one, bit 1.17.1 indicates that the PMA/PMD is able to operate as " to "When read as a one, bit 1.17.1 indicates that the 10GPASS-XR PMA/PMD is able to operate as "

Proposed Response *Response Status* **W**

PROPOSED REJECT.
In this instance the useage is correct as is since the first PMA/PMD refers to the one being read via MDIO not a specific type of PMA/PMD and is consistent with the rest of Clause 45: "When read as a one, bit 1.17.1 indicates that the PMA/PMD is able to operate as a 10GPASS-XR-D PMA/PMD type."
A quick scan of the 110 instance of PMA/PMD indicates they are all either proper as is or clear from context.

Cl **45** *SC* **45.2.1.131** *P* **37** *L* **48** # 3650

Hajduczenia, Marek Bright House Networks

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

Bit register 1.1900.10 is marked as "R/w" and should be "R/W"

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.131** *P* **37** *L* **51** # 3651

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Bit 1.1900.2 definition contains unnecessary detail for Clause 45, has ambiguous name, and could use better description

SuggestedRemedy

Change description to read:

1 = frames with detected CRC40 errors are labelled as errored
0 = frames with detected CRC40 errors are not labelled as errored

Change naming of register to "CRC40 errored frames"

Change content of subclause 45.2.1.131.3

Bit 1.1900.2 is used control whether frames with detected CRC40 errors are labelled as errored before being passed to higher layers, as described in
101.3.3.1.4. This bit is a reflection of the variable CRC40ErrCtrl defined in 101.3.3.1.6.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.131** *P* **38** *L* **5** # 3652

Hajduczenia, Marek Bright House Networks

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

Bit 1.1900.1 has a footnote, which is a bit odd in Clause 45 registers. The content of the footnote should be moved to description of the register.

SuggestedRemedy

This statement is already present in 45.2.1.131.4. Remove footnote b to Table 45–98a

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.131.4** *P* **38** *L* **36** # 3653

Hajduczenia, Marek Bright House Networks

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

Statement could use some wording improvement: "This bit is defined in 10GPASS-XR-U PMA/PMD only, in 10GPASS-XR-D always read as a one" to be more symmetric for U and D PHYs. Also, use explicit reference to what bit number it is :)

SuggestedRemedy

Change "This bit is defined in 10GPASS-XR-U PMA/PMD only, in 10GPASS-XR-D always read as a one" to "Bit 1.1900.1 is defined for the 10GPASS-XR-U PMA/PMD only. Bit 1.1900.1 is always read as a one for the 10GPASS-XR-D PMA/PMD."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to: "This bit is defined for the 10GPASS-XR-U PMA/PMD only, in the 10GPASS-XR-D PMA/PMD it is always read as a one."

Cl **45** *SC* **45.2.1.131.4** *P* **38** *L* **33** # 3654

Hajduczenia, Marek Bright House Networks

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

"When read as a one, bit 1.1900.1 indicates that the 10GPASS-XR PHY has completed PHY Discovery" ... since this subclause is in the PMA/PMD register block, likely we should be speaking of "PMA/PMD" and not "PHY"

SuggestedRemedy

Change "PHY" to "PMA/PMD" in subclause 45.2.1.131.4 and other subclauses in 45.2.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Make the suggested change at the discretion of the Editor. Note that in some instances PHY is correct (see cmt# 3657).

Cl **45** *SC* **45.2.1.131.5** *P* **38** *L* **45** # 3655

Hajduczenia, Marek Bright House Networks

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

Unnecessary requirement (IMO): "Bit 1.1900.0 shall default to zero so that no transmission ... " - it is also a reptition of the statement in line 49.

SuggestedRemedy

Change "Bit 1.1900.0 shall default to zero so that no transmission .. " to "Bit 1.1900.0 defaults to a zero so that no transmission .. "
Remove line 50, page 38 - it is not needed any more

Alternatively, strike the sentence "Bit 1.1900.0 shall default to zero so that no transmission is allowed by the EPoC CNU or CLT prior
to being properly configured to operate in the coaxial cable distribution network under which it is being
installed." altogether leaving line 50 inact - the reasons for setting it to zero are irrelevant to the spec.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Strike:
"Bit 1.1900.0 shall default to zero so that no transmission is allowed by the EPoC CNU or CLT prior to being properly configured to operate in the coaxial cable distribution network under which it is being installed."

Cl **45** *SC* **45.2.1.131.4** *P* **38** *L* **39** # 3656

Hajduczenia, Marek Bright House Networks

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

"The default value for bit 1.1900.1 is zero." - "zero" or "a zero"? I find more instances of where "a zero" and "a one" is used than "zero" / "one" with no preceding article.

SuggestedRemedy

Consider aligning the use of articles before "one" / "zero"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Globaly change "a zero" to "zero" (14x) and "a one" to "one" (25x)

Cl **00** *SC* **45.2.1.132** *P* **39** *L* **5** # 3657

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Soc*

What is "CLT output port" ? There are 6 instances (plus 1 in TOC) without definition.

SuggestedRemedy

Change "output port" to "PHY", which seems to be closest in 802.3 terminology to what you're trying to achieve ...

Same on page 39, line 24: "output port of the CLT" should be converted into "CLT PHY" or "CLT PHY transmitter"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Cl 00 as impacts Cl 100 also
Change all instances of "output port" in Cl 45 to "PHY".
In CL 100 pg 117
ln 30 change:
"100.3.1 CLT RF output port muting requirement" to
"100.3.1 CLT RF output muting requirement"
ln 34 change:
"The output return loss of the output port" to
"The output return loss at TP1/MDI"
ln 39 change:
"RF output port = 73 dBc" to
"RF output power = 73 dBc"

Cl **45** *SC* **45.2.1.132** *P* **39** *L* **7** # 3658

Hajduczenia, Marek Bright House Networks

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

"normal operations" - likely, "normal operation" or "normal operating conditions"

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to: "operation"

Cl **45** *SC* **45.2.1.132.1** *P* **39** *L* **24** # 3659

Hajduczenia, Marek Bright House Networks

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

"When bit 1.1901.15 is set to a one the output port" - missing comma after "a one"

SuggestedRemedy

Scrub remaining register bit definitions to make sure that the comma is not missing. There are at least 3 more instances I found when looking at them in a cursory fashion

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.132.1** *P* **39** *L* **24** # 3660

Hajduczenia, Marek Bright House Networks

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

Seems like two sentences got glued together: "When bit 1.1901.15 is set to a one the output port of the CLT is muted for testing purposes, when this bit is
set to a zero the CLT operates as normal (see 100.1.3)".

SuggestedRemedy

Change to "When bit 1.1901.15 is set to a one, the output port of the CLT is muted for testing purposes. When this bit is set to a zero, the CLT operates as normal (see 100.1.3)." - note that there are other comments modifying this sentence as well

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **45.2.1.132.1** *P* **39** *L* **25** # 3661

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"CLT operates as normal" - typically, PHYs have "normal mode" and "test mode" defined, so it is easy to reference then "CLT PMA/PMD enters the normal mode" or "CLT PMA/PMD enters the test mode"

SuggestedRemedy

Define "test mode" with a subclause in the draft - right now, test requirements are kind of spread all over the place, popping up in different subclauses. This needs to be organized in a way where we can point to a single location (at best) where the test mode is defined. Make sure that it is called "test mode" consistently in the draft - right now it is referenced to as "test conditions", "test operation", etc.
Anything else will be called "normal mode".
Change then "When bit 1.1901.15 is set to a one the output port of the CLT is muted for testing purposes, when this bit is set to a zero the CLT operates as normal (see 100.1.3)" to read "When bit 1.1901.15 is set to a one, the CLT PMA/PMD transmitter enters the test mode and it is muted. When bit 1.1901.15 is set to a zero, the CLT PMA/PMD enters the normal mode." - it is also not clear what the reference to "(see 100.1.3)" was really supposed to do in this statement - it does not point to anything that describes normal or test mode.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
With the exception of CLT output port muting, we don't define a general test or normal mode. Note that subclause 100.3 was created based on the Commenter's prior comments to group what are testing conditions into a separate subclause, this includes operational and performance requirements that must be met when the system placed into specified conditions; e.g. test conditions.

Change: "When bit 1.1901.15 is set to a one the output port of the CLT is muted for testing purposes, when this bit is set to a zero the CLT operates as normal (see 100.1.3)" to read "When bit 1.1901.15 is set to a one, the CLT PMA/PMD transmitter enters the test mode and it is muted. When bit 1.1901.15 is set to a zero, the CLT PMA/PMD unmutes the transmitter and exits test mode."

Change to Clause 100 as this is the only clause which speaks to test conditions.

During Comment resolution change to Clause 00 so Cl 45 Editors can align terminology.

Cl **00** *SC* **45.2.1.132.4** *P* **39** *L* **42** # 3662

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Clock Terminology Soc*

Clause 45 is the *only* location where the term "OFDM clock sample" is used. In Clause 101 it has many names, including "OFDM symbol clock", "sample clock period" and others.

SuggestedRemedy

Please align the terminology and avoid definging PHY-specific parameters in Clause 45 that are not aligned with what is used in PHY clause 101.
Once the proper term is defined by TF, change "Bits 1.1901.6:4 indicate the size, in OFDM clock samples (204.8 MHz)," to "Bits 1.1901.6:4 indicate the size, expressed in multiples of XXX (see xxx),", where XXX is the term that is selected and xxx is the reference where it is defined in Clause 101.

There are at least several other locations in Clause 45 where similar changes are needed: 45.2.1.132.5, 45.2.1.134.3, 45.2.1.134.4, 45.2.1.142.1, 45.2.1.144, 45.2.1.146, given that they rely on the same unit.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Clause 00 as the change as described applies to several clauses.

In General change to:
"in units of OFDM clock period (1/204.8 MHz)"

Editors to scrub the draft and align all clock names to one of:
"OFDM Clock"
"OFDM Master Clock"
"OFDM Symbol Clock"
"Subcarrier Clock"

Cl **45** *SC* **45.2.1.132.4** *P* **39** *L* **43** # 3663

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

"These bits are a reflection of the variable" - I would suggest to follow the recently received comment on D1.5 of 802.3bp (http://www.ieee802.org/3/bp/comments/8023bp_D15_approved.pdf, comment 24) and change "These bits" to "Bits 1.1901.6:4"

SuggestedRemedy

Apply the same type of changes everywhere where "these bits", "the bits", "this bit" is still in use in Clause 45 to make these references explcit

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The bits are clearly identified in the beginning sentence of the paragraph "Bits 1.1901.11:7 indicate". "These bits" later in the paragraph clearly refers to the same bits.

Cl **45** *SC* **45.2.1.132.4** *P* **39** *L* **44** # 3664
Hajduczenia, Marek Bright House Networks

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

Formatting inconsistency for "DSNrp" - it is italicized everywhere else

SuggestedRemedy

Italicize it

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.133** *P* **40** *L* **12** # 3665
Hajduczenia, Marek Bright House Networks

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

OFDM channel numbering in Table 45–98c coudl be improved. Rather than say "first", "second", etc., it is simpler to say "OFDM channel number 1", "OFDM channel number 2",

SuggestedRemedy

Change "This specifies the center frequency of subcarrier 0 of the first OFDM channel." to "This >>register<< specifies the center frequency of subcarrier 0 of the >>OFDM channel number 1<<." - note the changes marked in >><<
Apply to all registers in Table 45–98c and their descriptions in individual subclauses.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed SCl from Table 45-98c to 45.2.1.133, added Pg 40 Line 12.
Strike "This" in table rows.
The remaining text is clear and technically correct.

Cl **45** *SC* **45.2.1.133.1** *P* **40** *L* **29** # 3666
Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *MSB/LSB*

"Register 1.1902 specifies the center frequency for the first OFDM channel." should indicate how bits are assigned within the given register.

SuggestedRemedy

Change to "Bits 1.1902.15:0 specifies the center frequency of subcarrier 0 for the OFDM channel number 0." - this will align the wording with Table 45–98c, fix the issue with OFDM channel numbering, and also focus on bits of register and not register itself. What is missing is where in this register we have MSB and LSB - add it to the definition to make sure that the numbers are encoded in an interoperable fashion.
Apply to 45.2.1.133.1 through 45.2.1.133.5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Wording seems consistent with other parts of CL 45.2.1 (ex see 45.2.1.66-69, 45.2.1.128 (in which only part of the register is used), 45.2.1.129 and many others.
Wording between table 98c and text is consistent as is.
For MSB/LSB issue see Cmt$ 3669

Cl **45** *SC* **45.2.1.134** *P* **41** *L* **10** # 3667
Hajduczenia, Marek Bright House Networks

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

Contrary to state diagrams, we are not very pressed for space in Clause 45 when defining register/ bit names.

SuggestedRemedy

Rename "Rnd" to "Random seed" in Table 45–98d and title of 45.2.1.134.1
Rename "RB size" to "Resource Block size" in Table 45–98d and title of 45.2.1.134.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.134.2** *P* **41** *L* **28** # 3668
Hajduczenia, Marek Bright House Networks

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

Missing space in "RB size(1.1907.7)" between register name and opening paren

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **45.2.1.134.1** *P* **41** *L* **25** # 3669

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *MSB/LSB*

For all registers carrying specific values (and not just binary flags), you need to indicate where MSB / LSB is located to make sure that all implementations encode the value in the same way.

SuggestedRemedy

Insert statement into 45.2.1.134.1, 45.2.1.134.3, 45.2.1.134.4, and many others in registers being added under 802.3bn. I am not sure whether there is an alternative approach where this can be defined up front and applicable to all registers

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Cl 00 so comment change is implemented in CL 100, 101 & 102.
At the end of the para in 100.1.5, 101.1.3 and 102.1.8 add the following.
"The most significant bit in each variable is mapped to the highest numbered bit in the highest numbered register for Clause 45 registers."

Cl **101** *SC* **101.4.3.10.1** *P* **220** *L* **22** # 3670

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Soc*

USNcp definition indicates it is a 4 bit value, yet only 3 bits are really used. What is the point of reserving additional MSB here?

SuggestedRemedy

Given that these are *state diagram* variables, and not registers, we should not really care about how many bits these have. It would be much more consistent to define it as an 8-bit unsigned integer and then apply individual values as follows:
7 = 768 samples
6 = 640 samples
5 = reserved
4 = 512 samples
3 = reserved
2 = 384 samples
1 = reserved
0 = 256 samples
Bit assignment here does not matter at all, and allows you to add future values as needed, without playing around with bits and reserved values. I understand this is the way it is done in DOCSIS, but it is unnecessary and adds complexity in definitions of variables in state diagrams.
There are also other variables defined in the very same way without any need.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Clearly an enumeration is just as clear as mapping values. Commonallity with DOCSIS may add some small value. The objective is not to make it easy to generate the standard but easy to implement. Furthermore changing this to an 8 bit integer would break the register mapping in Cl 45 forcing the MANUAL renumbering of all registers after 1907 and posibly introducing errors in the standard in the process.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **45** *SC* **45.2.1.136.1** *P* **42** *L* **38** # 3671

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

missing reference in "reflection of the variable Type2_Repeat defined in ."

SuggestedRemedy

Add the missing reference

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add: "101.4.3.6.1"

Cl **45** *SC* **45.2.1.137** *P* **43** *L* **19** # 3672

Hajduczenia, Marek Bright House Networks

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

it is not clear what "normal" means for 1.1910.10 and 1.1910.2 - no copy is being made? The value of zero is also not defined in respective subclauses 45.2.1.137.2 and 45.2.1.137.5

SuggestedRemedy

Either add definition of what the value of zero means in subclause, or rename "normal" to something more descriptive

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In table change "normal" to "no copy initiated"
In subclause add after 1st sentence "When read as zero this bit indicate no copy is to be initiated."

Cl **45** *SC* **45.2.1.137.1** *P* **43** *L* **38** # 3673

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"writes to all upstream profile variables are ignored" - does it apply to registers or variables in state diagrams?

SuggestedRemedy

Clarify whether the statement applies to registers or variables in state diagrams. If registers are affected, the registers ignoring writes into them need to be listed here for completeness (to avoid differences in implementation). If dtate diagram variables are effected, they should be marked accordingly where they are defined.

This applies at least to 45.2.1.137.1 and 45.2.1.137.4

Similrly, the statement on "switching between profiles is prohibited" needs to be clarified as to how that is done (by setting some register to specific value as long as the copy is in progress, or entering some specific state in state diagram???)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change pg 43 ln 38
"writes to all upstream profile variables are ignored, and switching between profiles is prohibited."
to
"writes to all upstream profile descriptors and their reflective registers (see 101.4.1.1) are ignored, and switching between profiles (see 102.2.3.1.1) is prohibited."

Change pg 44 ln 4
"writes to all upstream profile variables are ignored, and switching between profiles is prohibited"
to
"writes to all downstream profile descriptors and their reflective registers (see 101.4.1.1) are ignored, and switching between profiles (see 102.2.3.1.1) is prohibited."
(note change of upstream -> downstream)

Cl **102** *SC* **102.2.3.1.1** *P* **251** *L* **28** # 3674

Hajduczenia, Marek Bright House Networks

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

unnecessary "." in "Configuration ID and profile activation."

SuggestedRemedy

Remove "."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.137.3** *P* **43** *L* **50** # 3675

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"Bits 1.1910.9:8 indicate the value of the most recently received upstream Configuration ID bits (see 102.2.3.1)." - it is not clear what reference to 102.2.3.1 is supposed to clarify here. Figure 102–1 does not help here either.

SuggestedRemedy

Either add reference to upstream Configuration ID bits in 102.2.3.1 and leave the reference here intact, OR, add here reference to specific terms used in 102.2.3.1 to define individual fields. Right now these are not tied in any way and the reference makes no sense.

Same for 45.2.1.137.6

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change pg 43 ln 50
"upstream Configuration ID bits" to "US_CID variable"
Change pg 44 ln 15
"downstream Configuration ID bits" to "DS_CID variable"

Cl **45** *SC* **45.2.1.140** *P* **45** *L* **18** # 3676

Hajduczenia, Marek Bright House Networks

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

"with bit 1.1913.0 being the LSB and bit 1.1914.15 bring the MSB" - likely, "bring" should be "being"

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.140** *P* **45** *L* **20** # 3677

Hajduczenia, Marek Bright House Networks

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

"this process which is fully described in 102.4.1" - no need to qualify whether it is fully or not fully described somewhere else

SuggestedRemedy

Change "this process which is fully described in 102.4.1" to "this process is described in 102.4.1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.141** *P* **45** *L* **50** # 3678

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Soc*

Bits 1.1915.14:0 have a confusing description: "A new CNU may be assigned this value for CNU_ID if the CNU_ID assigned flag is FALSE." - it is conditional on other register value, which is not a common thing to do

SuggestedRemedy

Change "A new CNU may be assigned this value for CNU_ID if the CNU_ID assigned flag is FALSE." to "The CNU_ID to be assigned to a CNU"

Change text in 45.2.1.141.2 to read as follows. Lot of the text is not needed because it goes into unnecessary discussion

Bits 1.1915.14:0 indicate a CNU_ID value. The value may be assigned to a new to a 10GPASS-XR-U PHY when bit 1.1915.15 is set to a zero. These bits are a reflection of the AllwdCNU_ID variable defined in 102.4.1.8.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The intent here is to allow the CLT to process multiple CNU Discovery responses simultaneously as this will be a relatively lengthy process. Given there is only one register for CNU_ID assignment there needs to be a handshaking protocol between the CLT Management which is ultimately controling CNU_ID values and the CLT/CNU PHYs. The entire process is explained in 102.4.1 and it's subclauses, in particular cl 102.4.1.6 which is directly referenced.

Change:
"The value of bits 1.1915.14:0 are used to indicate to the 10GPASS-XR PHY a valid CNU_ID value. The value may be assigned to a new CNU when the associated CNU_ID assigned flag is set to zero, …"
to
"Bits 1.1915.14:0 indicate to the 10GPASS-XR PHY a valid CNU_ID value. The value may be assigned to a new CNU when CNU_ID assigned flag (bit 1.1915.15) is set to zero, …"

Cl **45** *SC* **45.2.1.141.1** *P* **46** *L* **3** # 3679

Hajduczenia, Marek Bright House Networks

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

Unnecessarily wordy definition and uses style different from other register definitions.

SuggestedRemedy

Change to read:

Bit 1.1915.15 indicate if the associated CNU_ID value has been assigned to a CNU. When bit 1.1915.15 is set to a one, the associated CNU_ID has been assigned to a CNU. When bit 1.1915.15 is set to a zero, the associated CNU_ID has not been assigned. See 102.4.1.6 and 102.4.3 for additional details on the use of bit 1.1915.15. This bit is a reflection of the variable AssgndCNU_ID defined in 102.4.1.8.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change
"The value of bit 1.1915.15, is used to indicate if the associated CNU_ID value has been assigned to a CNU by the PHY. When the flag is set to a one the associated CNU_ID has been assigned to a new CNU whereas when the flag is set to zero the associated CNU_ID has not been assigned."
to
"Bit 1.1915.15 indicates if the associated CNU_ID value has been assigned to a CNU by the PHY. When this bit is set to one, the associated CNU_ID has been assigned to a CNU. When set to zero, the associated CNU_ID has not been assigned. "

Cl **45** *SC* **45.2.1.142** *P* **46** *L* **29** # 3680

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Soc*

Unnecessary information in Table 45–98l: "as determined by the PHY Discovery process" - how this is determined is irrelevant to register definition

SuggestedRemedy

Remove "as determined by the PHY Discovery process" from Table 45–98l

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove text as suggested from Table 45-98l.

In 45.2.1.142.2 change
"… hold the MAC address of the CNU corresponding to ..." to
"… hold the MAC address of the CNU, as determined by the PHY Discovery process, corresponding to …"

Cl **45** *SC* **45.2.1.142** *P* **46** *L* **37** # 3681

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Table 45–98l reserves a whole register 1.1920 without any need.

SuggestedRemedy

Remove 1.1920 defintion, renumber all existing register numbers following 1.1919 by one.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This register is reserved for future expansion into 64b MAC addresses which the commenter has indicated is eminent.

Optionally we could include a description of the reserved register noting it's intended future use.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **45** *SC* **45.2.1.144** *P* **47** *L* **20** # 3682

Hajduczenia, Marek Bright House Networks

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

minor wording improvement for "Registers 1.1923 and 1.1922 form a signed 32-bit integer in units of 1/204.8 MHz. "

SuggestedRemedy

Change to "Registers 1.1923 and 1.1922 form a signed 32-bit integer, expressed in units of 1/204.8 MHz." - it would be also nice to name the unit 1/204.8 MHz that appears in multiple locations in the draft and rather than repeat them over and over again, just reference to them by name

Similarly change in 45.2.1.145.1, "value in units of 1/4 dB" to "value expressed in units of 1/4 dB"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change
"Registers 1.1923 and 1.1922 form a signed 32-bit integer in units of 1/204.8 MHz. Bit 1.1922.0 is the LSB of this parameter and bit 1.1923.15 is the MSB. A negative value causes the timing of the CNU transmissions to be delayed. The PHY timing offset register is used to align the CNU to the upstream OFDM timing. For more information on the use of this register see 102.4.1.6. The assignment of bits in the PHY timing offset registers is shown in Table 45–98n. These registers are a reflection of the variable PhyTimingOffset defined in 102.4.1.8.2."
to
"The assignment of bits in the PHY timing offset registers is shown in Table 45–98n. Registers 1.1923 and 1.1922 form an offset register used to align the CNU to the upstream OFDM timing. For more information on the use of this register see 102.4.1.6. These registers are a reflection of the variable PhyTimingOffset defined in 102.4.1.8.2."
This avoids duplication of information in normative definition of PhyTimingOffset
Note that MSB/LSB issues are resolved in Cmt#3669

Cl **102** *SC* **102.4.1.8.2** *P* **274** *L* # 3683

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

What is the different between "signed 32-bit integer" and "32-bit integer"? We explicitly use the word "unsigned" when we care only about non-negative values (0 onwards), use "signed" when we care that we can represent negative values. When no qualifier is present, does it mean we do not care?

SuggestedRemedy

use "signed" when negative numbers are expected to be stored, and "unsigned" when non-negative values are expected. Scrub Clause 102 and Clause 103 to make all integer variables consistent.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add "unsigned" where required.
Note that "signed integer" does not appear in Section 5 of P802.3bx Draft 3.2 so this request seems somewhat arbitrary. If the commenter feels strongly it is suggested a maintenance request be submitted against the standard.

Cl **45** *SC* **45.2.1.144** *P* **47** *L* **31** # 3684

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

Different ways of designating bits from the given variable mappes into specific register bits. Compare Table 45–98n and Table 45–98l. The first uses "[x:y]" desigantion (which is more clear to me) and the other one uses "bits x:y" - there are other registers as well, where the format used is even different than that (e.g., see Table 45–98p)

SuggestedRemedy

Align the format of referencing to bit ranges to "[x:y]" format for all registers added in Clause 45.
This is especially important in Table 45–98q, Table 45–98r, where "lowest, highest, middle" bit designators are used, and [x:y} format would be much more readable.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Impact to the following tables: 98j, 98l, 98n, 98p, 98q, 98r, 98s, 98t, and 98u (table with MW registers).

Cl **45** *SC* **45.2.1.145.1** *P* **48** *L* **3** # 3685

Hajduczenia, Marek Bright House Networks

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

This text does not pertaint to Clause 45; "The PHY power offset is used to set the CNU upstream transmitter power by indicating the relative change in transmission power level the CNU is to make in order that transmissions arrive at the CLT at the desired power level. " - it has to do with the way the power level is set on the CNU and not with the register itself.

SuggestedRemedy

Move the selected text to 102.4.1.6.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed pg fm 47 to 48
Change
"Bits 1.1924.7:0 represent a signed 8-bit value in units of 1/4 dB. The PHY power offset is used to set the CNU upstream transmitter power by indicating the relative change in transmission power level the CNU is to make in order that transmissions arrive at the CLT at the desired power level. For more information on the use of these bits see 102.4.1.6. These bits are a reflection of the variable PhyPowerOffset defined in 102.4.1.8.2."
to
"Bits 1.1924.7:0 represent a power offset the CNU is to make in order that transmissions arrive at the CLT at the desired power level. For more information on the use of these bits see 102.4.1.6. These bits are a reflection of the variable PhyPowerOffset defined in 102.4.1.8.2."

Cl **45** *SC* **45.2.1.146** *P* **48** *L* **11** # 3686

Hajduczenia, Marek Bright House Networks

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

Unecessary reference to format of the register: "Registers 1.1925 and 1.1926 represent the PHY ranging offset parameter which is an unsigned 32-bit integer in units of 1/204.8 MHz"

SuggestedRemedy

Change to "Registers 1.1925 and 1.1926 represent the PHY ranging offset expressed in units of 1/204.8 MHz."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The optional CL 45 register is one of numerous ways to implement control of a managed variable. The important point is not definition of the register but definition of the variable which is clear in 101.4.2.4.5. Duplicating the specification in Cl 45 may lead to out of sync definitions and ambiguity if one definition is changed and not the other.

Cl **45** *SC* **45.2.1.146** *P* **48** *L* **12** # 3687

Hajduczenia, Marek Bright House Networks

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

Unnecessary details for Clause 45 register definitions: "This is used to provision a delay in the ranging response in the event there is an
analog optical segment between the CLT and the CNUs as described in 102.4.1.6"

SuggestedRemedy

Strike this sentence altogether

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.163** *P* **56** *L* **10** # 3688

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *MSB/LSB*

Perfectly meaningless description for bits 1.1951.15:8: PhyDiscPwrStep
Units and MSB/LSB information is missing in 45.2.1.163.1

SuggestedRemedy

Change to read: "Discovery Response power step requested by CLT"

Also, remove unnecessary details from 45.2.1.163.1: strike "if
there is no acknowledgment from the CLT to a PHY Discovery Response from the CNU" - this is detail unnecessary for Clause 45.

information on units and MSB/LSB is still missing and needs to be added separately.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change table entry to read:
"indicates the power increase of the PHY Discovery Response if there is no acknowledgment"
For MSB/LSB issue see CMT# 3669

Cl **45** *SC* **45.2.1.163.2** *P* **56** *L* **24** # 3689
Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *MSB/LSB*

Units and MSB/LSB information is missign in 45.2.1.163.2

SuggestedRemedy

Add information on units for bits 1.1951.7:0, together with MSB/LSB identification for these bits.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
see CMT# 3669

Cl **45** *SC* **45.2.1.164** *P* **56** *L* **31** # 3690
Hajduczenia, Marek Bright House Networks

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

"The assignment of bits in the US target receive power register register " - one too many "register" instance

SuggestedRemedy

remove one of "register" instances

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.164** *P* **56** *L* **28** # 3691
Hajduczenia, Marek Bright House Networks

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

Missing information on unit and MSB/LSB location in 45.2.1.164. Also, footnote b) from Table 45–98ah should be moved to the main text and not hanging in the table

SuggestedRemedy

Add information on unit and MSB/LSB location in 45.2.1.164
Remove footnote b) in Table 45–98ah
Insert the following text at the end of line 33: "Bits 1.1952.9:0 are valid only for 10GBASS-XR-D PMA/PMD. Bits 1.1952.9:0 are reserved for 10GBASS-XR-U PMA/PMD and always read as zero."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per comment except for MSB/LSB issue see CMT# 3669

Cl **45** *SC* **45.2.1.165** *P* **57** *L* **1** # 3692
Hajduczenia, Marek Bright House Networks

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

Table 45–98ai contains several b) footnotes, which should be converted into text

SuggestedRemedy

Remove all b) footnotes from Table 45–98ai.
Insert the followi text: "Bits 1.1953.8:0 are valid only for 10GBASS-XR-D PMA/PMD. Bits 1.1953.8:0 are reserved for 10GBASS-XR-U PMA/PMD and always read as zero." in 45.2.1.165.1 and then applied also to other subclauses: 45.2.1.165.2, 45.2.1.165.3, 45.2.1.165.4, and 45.2.1.165.5, with chanes to bit numbers.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a** *P* **58** *L* **5** # 3693
Hajduczenia, Marek Bright House Networks

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

Sentence missin "." and also does not read riht

SuggestedRemedy

Chane "The assignment registers of in the OFDM MMD is shown in Table 45–211a" to "The assignment registers in the OFDM MMD is shown in Table 45–211a."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Move "of" between "assignment" and "registers" in the sentence and add period so it reads: "The assignment of registers in the OFDM MMD is shown in Table 45–211a."

Cl **00** *SC* **45.2.7a.1** *P* **58** *L* **29** # 3694
Hajduczenia, Marek Bright House Networks

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

Double "." at the end of line: "The assignment of bits in the DS OFDM channel ID register is shown in Table 45–211b. ."

SuggestedRemedy

Replace ". ." with "."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Changed to Cl 00
Do global search.

Cl **45** *SC* **45.2.7a.1.1** *P* **58** *L* **48** # 3695
Hajduczenia, Marek Bright House Networks

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

missin "." at the end of line 48

SuggestedRemedy

chane "defined in 101.4.2.4.5" to "defined in 101.4.2.4.5."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.2** *P* **59** *L* **9** # 3696
Hajduczenia, Marek Bright House Networks

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

It would be helpful to specify what "first four subcarriers" means

SuggestedRemedy

Add "(i.e., subcarriers number 0 through 3)" after "first four subcarriers"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.2** *P* **59** *L* **13** # 3697
Hajduczenia, Marek Bright House Networks

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

Ambiguous what "these registers" means in "Changing these registers does not affect the" mean. Also, no need to mention active profile here

SuggestedRemedy

Change "Changing these registers does not affect the active profile, only the inactive profile" to "Changing registers 12.1 through 12.1023 affects only the inactive profile"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.2** *P* **59** *L* **16** # 3698
Hajduczenia, Marek Bright House Networks

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

Missing "." in line 16

SuggestedRemedy

Add missing "." at the end of sentence

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.4.5** *P* **174** *L* **10** # 3699
Hajduczenia, Marek Bright House Networks

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

Spurrious "| " in line 10

SuggestedRemedy

Remove "| "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.2.1** *P* **59** *L* **35** # 3700

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"See the variable definition for interpretation of individual bits" - this is not the correct way to approach it - definitions of reisters should be self-standin and not rely on cross-reference elsewhere. Details of where and why individual values are set are not important in Clause 45.

SuggestedRemedy

Remove "See the variable definition for interpretation of individual bits" in 45.2.7a.2.1, 45.2.7a.2.2, 45.2.7a.2.3, and 45.2.7a.2.4
Add the following definition in Table 45-211c, in Description for 12.1.15:12, under "Modulation profile for subcarrier 7"
15 14 13 12
1 1 1 1 = Excluded subcarrier
1 1 1 0 = 16384-QAM
1 1 0 1 = 8192-QAM
1 1 0 0 = 4096-QAM
1 0 1 1 = 2048-QAM
1 0 1 0 = 1024-QAM
1 0 0 1 = 512-QAM
1 0 0 0 = 256-QAM
0 1 1 1 = 128-QAM
0 1 1 0 = 64-QAM
0 1 0 1 = 32-QAM
0 1 0 0 = 16-QAM
0 0 1 1 = 8-QAM
0 0 1 0 = QPSK
0 0 0 1 = BPSK
0 0 0 0 = null
Repeat bit assignment in 12.1.11:8, 12.1.7:4, and 12.1.3:0 in the same fashion.
Similar chanes in 45.2.7a.3 and subclauses.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
On the contrary Cl 45 is optional in its entirety. All normative information is contained in the variable definition. Duplication of this information may lead to inconsistencies and ambiguity.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **45** *SC* **45.2.7a.4** *P* **61** *L* **8** # 3701

Hajduczenia, Marek Bright House Networks

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

"the imaginary number setting for subcarrier 0 and so on" - since this is a complete example, "so on" is not needed

SuggestedRemedy

Remove "and so on"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.4** *P* **61** *L* **10** # 3702

Hajduczenia, Marek Bright House Networks

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

The text "Each number is a 16-bit signed fractional number conforming to the Q2.14 format." should reference to register format and not some "number". Q2.14 represents a real number, with 16 bits (2+14) and requires no more explanation - real number impliec fractional already

SuggestedRemedy

Change text to read: "The value in each register is a real number in Q2.14 format."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to
"The value in each register is in a Q2.14 format."
Obviously if it is in Q2.14 it is a real number (or maybe it is really imaginary).

Cl **56** *SC* **56.1** *P* **67** *L* **15** # 3703

Hajduczenia, Marek Bright House Networks

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

"Furthermore, EFM also introduces the concept of EPON Protocol over Coax (EPoC)" - but we also have statement "EFM also introduces the concept of Ethernet Passive Optical Networks (EPONs)", making it a list of "also" statements looking just odd

SuggestedRemedy

Change "EFM also introduces the concept of Ethernet Passive Optical Networks (EPONs)" to "EFM introduces the concept of Ethernet Passive Optical Networks (EPONs)" and use proper markup for the removed word "also"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **56** *SC* **56.1.2.2** *P* **69** *L* **19** # 3704
Hajduczenia, Marek Bright House Networks

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

Editorial markup gone wrong in: "Clause 76, and the RS for EPoC P2MP topologies is described in Clause 101"

SuggestedRemedy

remove underline under "Clause 76" and add it under " Clause 101"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Align with comment #3988.

Cl **56** *SC* **56.1.3** *P* **71** *L* **28** # 3705
Hajduczenia, Marek Bright House Networks

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

missing space at the end of "These rates are based on maximum mandatory modulation format in Table 100-3"

SuggestedRemedy

Add missing space

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Missing a period, not a space.

Cl **100** *SC* **100.1** *P* **77** *L* **11** # 3706
Hajduczenia, Marek Bright House Networks

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

"in downstream direction and up to 1.6 Gb/s in upstream direction" - missing "the" before "downstream" and "upstream"

SuggestedRemedy

For consistency, it seems that it is "the downstream direction" and "the upstream direction" everywhere else

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.1** *P* **77** *L* **25** # 3707
Hajduczenia, Marek Bright House Networks

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

Either I have problems with eyes or symbols for floor and ceil functions are of different size.

SuggestedRemedy

Please make sure both symbols are the same (have the same height)

Also, make sure that sentences for ceil and floor functions are together in the same para - there is no need to separate them into new paras

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Will review FM and see if same font size. If they are the same, will adjust for editor's eyeball.

Cl **100** *SC* **100.1.4** *P* **83** *L* **9** # 3708
Hajduczenia, Marek Bright House Networks

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

It is odd that the 10GPASS-XR-D type PMD is separated from sentence on 10GPASS-XR-U type PMD that happens to be in a separate para.

SuggestedRemedy

Merge sentence in line 9 with sentence in line 13 into a single para. Sentence in line 10 to be added to the end of this new para.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.5** *P* **83** *L* **33** # 3709
Hajduczenia, Marek Bright House Networks

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

Looking at Table 100-1, the use of "_" in names of PMA/PMD variables is very inconsistent. It does not add to readability in any way, and just make typing them and reading them more complex.

SuggestedRemedy

Since the use of "_" in variable names is not consistent, and does not seem to follow any pattern at all, remove all "_"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This is "make work" for the editors at this point and may introduce problems.

Cl **100** *SC* **100.2** *P* **85** *L* **44** # 3710
Hajduczenia, Marek Bright House Networks

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

"PMD functions are implementation dependent " - here, "implementation dependent" is an adjective and should have a hyphen

SuggestedRemedy

Change all instances of "implementation dependent" to "implementation-dependent"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.1.3** *P* **86** *L* **37** # 3711
Hajduczenia, Marek Bright House Networks

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

"Both I_value and Q_value are encoded as 32-bit signed integers" - in other locations, names of parameters are italicized

SuggestedRemedy

Italicize the names of parameters I_value and Q_value in 100.2.1.2 and in 100.2.1.2 - compare the use of italics in 100.2.1.4

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.1** *P* **296** *L* **25** # 3712
Hajduczenia, Marek Bright House Networks

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

Missing serial comma in "Clause 100, Clause 101 and Clause 102"

SuggestedRemedy

Change to "Clause 100, Clause 101, and Clause 102"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.1** *P* **304** *L* **20** # 3713
Hajduczenia, Marek Bright House Networks

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

VALUE or Value?

SuggestedRemedy

I believe "VALUE" would be more appropriate, given that we capitalize "TYPE" everywhere already

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **103.2.2.3** *P* **305** *L* **31** # 3714
Hajduczenia, Marek Bright House Networks

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

"TYPE: 24 bit unsigned"- "24 bit" is an adjective and should be hyphenated

SuggestedRemedy

Change "24 bit unsigned" to "24-bit unsigned integer"
Similar change for "16 bit unsigned", "32 bit unsigned", "18 bit unsigned", etc.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Changed to Cl 00
The commenter is invited to enter a maintance request to correct these errors in the Standard also.

Cl **103** *SC* **103.2.2.4** *P* **308** *L* **12** # 3715
Hajduczenia, Marek Bright House Networks

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

"PHY_Overhead(). returns the number of octets that the PHY inserts during transmission of a particular packet."

SuggestedRemedy

Remove ".-" after "()" and before "returns"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.3** *P* **315** *L* **48** # 3716
Hajduczenia, Marek Bright House Networks

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

How much is "largely" ? 50%? 75%? Undefined quantifiers are not needed ...

SuggestedRemedy

Remove the word "largely"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.3** *P* **315** *L* **51** # 3717
Hajduczenia, Marek Bright House Networks

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

In other locations, variables were itialicized ...

SuggestedRemedy

Italicize laserOnTime, laserOffTime, rfOnTime, and rfOffTime

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.3.3** *P* **318** *L* **26** # 3718
Hajduczenia, Marek Bright House Networks

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

If there are no functions defined, remove 103.3.3.3 altogether

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.3** *P* **79** *L* **1** # 3719
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *intro move to 101*

Figure 100-2 contains plenty of acronyms that are not immediately easily expandable to the full meaning

SuggestedRemedy

Please expand all acronyms from Figure 100-2 in the same way as they were done in Figure 100-1. The same comment applies to Figure 100-3, Figure 100-4, and Figure 100-5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
There are three new acronyms that are different than Figure 100-1 is "IFFT" (change to "IDFT" with this comment), "FCP", and will move "CPW" to this list also. Expand "RS" to "Reconcillation" in the function box to match 100-1. Suggest not replicating all the acronyms from Figure 100-1.

Note: the intro and Figures 100-2 through 100-5 will be moving to Clause 101 after these changes have been made. As per comment #4021.

Cl **100** *SC* **100.1.3** *P* **82** *L* **1** # 3720
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

Figure 100-2 through Figure 100-5 use very inconsistent capitalization for block names. Is there any reason why you use "Gearbox" but for example "FEC DECODER" (or other block names??)

SuggestedRemedy

Rationalize block names. For example, "FEC DECODER" should be "FEC Decoder", "64B/66B DECODER" would become "64B/66B Decoder", etc. This is applicable to Figure 100-2 through Figure 100-5

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The "Gearbox" function was removed in a prior comment round and missed getting updated in this figure. Removing also removes the mentioned inconsistency as we are using all CAPS for functional block names consistently (mostly).

Action: 1) Remove "Gearbox" funtion box from Figure 100-5 and adjust figure accordingly, 2) change any lower case to CAPS in the mentioned figures except for cross references.

Cl **00** *SC* **100.2** *P* **85** *L* **43** # 3721

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

"10GPASS-XR" with em-dash or "10GPASS-XR" with normal hyphen.

SuggestedRemedy

Looking at recent projects and the way the PMD/PHY names are spelled out, normal hyphen seems to be used.
Please change all instances of "10GPASS-XR" with em-dash to "10GPASS-XR" with normal hyphen

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Peter says "It is a dash (not and en dash or an em dash)." Further make sure non-breaking (Esc - h). Verify/change throughout document to verify dash.

Changed to Clause 00.

Cl **103** *SC* **103.2.2.1** *P* **304** *L* **15** # 3722

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

Since we are writing a new spec, we can at leats be consistent about the units and the way they are expressed. The proper convention is to use statement: "expressed in units of XXX" and not just "in XXX"

Right now we use: "in XXX", "measured in units of XXX", "expressed in XXX", "expressed in units of XXX", "represented in units of XXX" without any need

SuggestedRemedy

Align definitions of variables and constants, to make sure that when units are used, the statement to describe the unit goes like: "expressed in units of XXX"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "in XXX" to "in units of XXX" where appropriate as this is consistent with the standard.

Cl **103** *SC* **103.2.2.1** *P* **304** *L* **47** # 3723

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

"This constant is defined in 64.2.2.1 and is 16 ns." - if you already point to definition elsewhere, that is all you neeed - do not copy value

SuggestedRemedy

Change to "This constant is defined in 64.2.2.1." or just copy whole definition from 64.2.2.1 without reference. The first approach is preferred.
Similar change to definitions of: localTime, data_rx, data_tx, grantStart, IdleGapCount, newRTT, m_sdu_rx, m_sdu_tx, OctetsRequired, and others in Clause 103, where you both define it locally and reference it back to Clause 64/77. A reference is sufficent - a full definition is a click away.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The intention here was to provide the reader with additional information on the constant and not force him/her to follow the cross reference, especially one to another section of the standard (something the commenter has pointed out is objectionable). The language used in intentionally non-normative as the referenced definiton is normative, however I'm also somewhat torn as duplication of normative text is never preferred. Will leave this up to the TF/WG to decide.

For (reject):
Against (change):
Abstain:

Cl **103** *SC* **103.2.2.4** *P* **308** *L* **8** # 3724

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

In other locations, parameters were italicized and here they are present in " for some reason . The same observation in line 12

SuggestedRemedy

Consider using consistent markup for parameters and variables as itialicized values, which are much more readable than parameter names marked in "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
remove single quotes and italicize variable.

Cl **103** *SC* **103.2.2.7** *P* **313** *L* **38** # 3725
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

Text in "SEND FRAME" state uses different font size and type than other states - please align

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Good catch. Change "MAC:MA_DATA.request(DA,SA,m_sdu_tx)" to Ariel 8 pt to be consistent with template and rest of figure.

Cl **103** *SC* **103.3.1** *P* **315** *L* **9** # 3726
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

Text style !!!

SuggestedRemedy

Use the proper text style in 103.3.1 and in 103.3.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Good catch. Reset to para style T,Text !!!

Cl **103** *SC* **103.3.3** *P* **316** *L* **8** # 3727
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

Missing closing paren in MA_CONTROL.request and MA_CONTROL.indication in Figure 103–14
Similarly in Figure 103–16, MA_CONTROL.request and MA_CONTROL.indication

SuggestedRemedy

Add missing closing paren in both Figures

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.3.6** *P* **321** *L* **11** # 3728
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

This is the first time that I see state diagrams defined in Tables :)

SuggestedRemedy

Change all "Table" cross references in lines 10-20 to "Figure"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.3.6** *P* **324** *L* **21** # 3729
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

Wrong text format for "MCI:MA_DATA.request(DA, SA, m_sdu_ctl)"

SuggestedRemedy

Apply proper text format per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Good catch. Change to Ariel 8 pt to be consistent with template and rest of figure.

Cl **103** *SC* **103.3.3.6** *P* **325** *L* **41** # 3730
Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

Wrong font format for lines
MCI:MA_DATA.request(DA, SA, m_sdu_ctl)
MACI(REGISTER, SA, LLID, status ? deregistered)

SuggestedRemedy

Apply proper text format per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Good catch. Change to Ariel 8 pt to be consistent with template and rest of figure. (Note MACI(REGISTER, SA, LLID, status ? deregistered) already in proper fmt)

Cl **67** *SC* **67.6.1** *P* **74** *L* **24** # 3731

Hajduczenia, Marek Bright House Networks

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

"10GPASS-XR PHYs in service" - I believe you do not want to enable unidirectional mode on CNU only

SuggestedRemedy

Modify the text to "10GPASS-XR-U PHYs in service"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.3** *P* **79** *L* **47** # 3732

Hajduczenia, Marek Bright House Networks

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

Caption of Figure 100-2 is incorrect: there are no "transmit
PCS, PMA, and PMD sublayers" - there are "PCS, PMA, and PMD sublayers, transmit direction"

SuggestedRemedy

Change caption for Figure 100-2 to read: "Functional blocks within 10GPASS-XR-D CLT PCS, PMA, and PMD sublayers, transmit direction".
Similar changes to caption of Figure 100-3, Figure 100-4, and Figure 100-5

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.4** *P* **83** *L* **6** # 3733

Hajduczenia, Marek Bright House Networks

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

"a variable rate that is determined when configured" - and what happens when PHY is reset, power cycled, or conditions on the cable plant change? I believe data rate reconfguration takes place then as well, yet it is not listed here.

SuggestedRemedy

Provide text describing conditions under which data rate for EPoC PHY is determined. I assume it happens when the PHY is power cycled / reset, conditions on CCDN change to force changes in the number of ODFM carriers, and due to operator configuration change.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
1) The configuration of the system is determined by the cable operator based on local conditions, many of which are well beyond the ability of this standard to document. This is an open ended issue.

2) Add a "NOTE- The EPoC system can be reconfigured at any time by the cable operator. Such changes will typically take effect for example: after a power cycle, reset, fault, or other cable operator actions, etc.."

Cl **100** *SC* **100.1.5** *P* **84** *L* **38** # 3734

Hajduczenia, Marek Bright House Networks

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

Last column, line 38 contains statement "as above" - does it mean that this cell should contain value of 15:12? If so, why not just copy it in?????

SuggestedRemedy

Per comment - it is not clear what value is intended to be here. 15:12 seems like a likely suspect There are also other instances of "as above" in the table without any need. Please use explicit values - such residrections are not needed

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace "as above" at Pg/Ln with entry for index listed:
Pg/Ln Index
84/39 1001
85/7 1024
85/36 11241

Cl **100** *SC* **100.2.1.2** *P* **86** *L* **21** # 3735
Hajduczenia, Marek Bright House Networks

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

"one modulated symbol encoded as an I / Q value pair " - what is this "I/Q value pair"?

SuggestedRemedy

Given that the "I/Q value pair" has not yet been defined and Clause 100 is where it is encountered first, either a) define it here, or b) put a reference to where it is defined so that a reader does not need to wonder what it is and what it is supposed to represent.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment #4023

Cl **100** *SC* **100.2.2** *P* **87** *L* **14** # 3736
Hajduczenia, Marek Bright House Networks

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

Unnecessary repetition: "Tx_Enable takes the values of ON and OFF. When there is no RF signal being sent (OFF) the transmitter is in the OFF state." - it is already covered in the definition of PMD_SIGNAL.request primitive

SuggestedRemedy

Remove tthe selected text

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.4** *P* **87** *L* **23** # 3737
Hajduczenia, Marek Bright House Networks

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

.. and what happens in CLT? Is the PMD transmit enable function always asserted (if so, where is this fact described) and if it is not defined at all, it would be nice to state jus that

SuggestedRemedy

Either a) include statement about what happens with PMD transmit enable function in CLT or b) indicate that it is not defined for CLT and CLT PMD is always enabled

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Editor to select b) as added "NOTE:" to end of paragraph at line 26. Change 100.2.4 header text to "PMD transmit enable function".

Cl **103** *SC* **103.1** *P* **295** *L* **21** # 3738
Hajduczenia, Marek Bright House Networks

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

"Clause 67 provides additional examples of P2MP topologies." - not for CCDN

SuggestedRemedy

Remove statement

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2** *P* **302** *L* **4** # 3739
Hajduczenia, Marek Bright House Networks

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

"Detailed differences are noted in the definitions below and in Figure 103–3 through Figure 103–13." - at this level, the only difference is the names (CLT, CNU versus OLT, ONU) and nothing more. The actual differences begin only in 103.2.2.1 onwards, where variables and state diagrams are defined.

SuggestedRemedy

Strike this sentence - it does not add anythingg, given that this subclause is modelled as a standalone subclause and not delta from Clause 77

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Changed pg to 302
See response to Cmt# 3746

Cl **103** *SC* **103.2.2.4** *P* **307** *L* **37** # 3740
Hajduczenia, Marek Bright House Networks

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

Since there is already "+=" operand being used without any problems, "-=" is also available

SuggestedRemedy

Change "length = length - fecPldSz[0]" to "length -= fecPldSz[0]"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.4** *P* **307** *L* **46** # 3741

Hajduczenia, Marek Bright House Networks

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

Confusing operator "=>" - it seems like an assigmment operator

SuggestedRemedy

Change "=>" to ">=" which is what I believe you intend to mean here (greater than or equal)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change the following:
1) All "=>" change to "<="
2) All "elseif" change to "else if"
3)Page 307, Line 51, "{length" needs to be "(length"
4)Page 307, Line 53, insert a line with "}" before the "else" to satisfy the else if bracket on line 51.

Cl **103** *SC* **103.2.2.4** *P* **307** *L* **43** # 3742

Hajduczenia, Marek Bright House Networks

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

"GntSize += length + ceiling(length/64) + fecPrtySz[0];" but before you define symbols for ceil and floor functions

SuggestedRemedy

change "ceiling" to ceiling function symbol per 77.2.2.4
Also, to guarantee proper order of execution, you might want to change the line "GntSize += length + ceiling(length/64) + fecPrtySz[0];" to read "GntSize += (length + ceiling(length/64) + fecPrtySz[0]);" to make sure that GntSize is incremented by the sum of three elements on the right and not just length itself. Same change in line 49, and line 1 on page 308

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add to the end of the first sentence of 103.1.6 "; in pseudo code listing the term ceiling() is used for this function" so the entire sentence reads:
"For equations used in this clause the symbol represents a ceiling function that rounds up it's argument x to the next highest integer; in pseudo code listings the term "ceiling()" is used for this function."

Note that the spelling of "it's" in the draft has a typo.

Note the ceiling character could be added using the char code 00E9 & 00F9 (latin "e" with acute) in Symbol font via the utilities -> Character Palatte menu however this would not work with any know compiler and is contrary to the common practice of putting pseudo code in Courier New font.

Cl **56** *SC* **56.1.2** *P* **67** *L* **38** # 3743

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *EZ*

"For P2MP coaxial topologies, EFM supports EPoC operating with a nominal bit rate of up to 10 Gb/s in the downstream direction and up to 10 Gb/s in the upstream direction. " - based on available upstream channel allocation, I am not sure how 10 Gb/s operation could be even theoretically achieved

SuggestedRemedy

Drill down the upstream data rates from 10 Gb/s to something that is more appropriate given the number of available upstream OFDM channels

Similar modification will be needed on page 68, line 53

Note that Table 56-1, Table 67-1, and even 100.1 list upstream speed as "up to 1.6 Gb/s"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Page 67, Line 39, change "10 Gb/s" to "1.6 Gb/s". Same for Page 68, Line 53.

Otherwise, cable operator configuration is based on local deployment conditions and drilling down is not possible.

Cl **100** *SC* **100.1.3** *P* **80** *L* **40** # 3744

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Figure 100-3 has two instances of "PMD_SIGNAL.request()" entering PMD FUNCTIONS block from two different locations, which implies that they are one and the same, yet they are generated by different blocks

SuggestedRemedy

Rationalize the names of primitives as listed in the comment. One of them should be different. If they were to be the same (as 100.2.1.4 seems to imply), PMD_SIGNAL.request() should enter first PHY Link block and then leave going into PMD FUNCTIONS block, which is not the case. Then the PMD_SIGNAL.request() primitive can ge generated in an additive fashion, and not create potential race conditions (what happens if one block sets it to ON and another to OFF - which takles priority then???)
Once the change is done, text describing the race condition on page 78, lines 1-7 can be simplified, to list only the fact that PMD_SIGNAL.request() is generated by either of the blocks in a cascade manner.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
1) Modify Figure 100-3 to move left side PCS originated PMD_SIGNAL.request() to right side. Move PMD Functions to left to show both of these signals from PCS and PHY Link being "or'd" into the PMD_SIGNAL.request() that is input to the PMD FUNCTIONS block. Only label the output of the OR function as "PMD_SIGNAL.request()". (Technically, this is an OR signal bus with two generators and one detector.)
2) Page 86, Line 46. Remove the single sentence paragraph beginning with "In the upstream direction".
3) Change para beginning line 59:
"The semantics of the service primitive are PMD_SIGNAL.request(Tx_Enable). The Tx_Enable parameter can take on one of two values: ON or OFF, determining whether the PMD transmitter is on (enabled) or off (disabled). The Clause 101 PCS generates this primitive to indicate a change in the value of Tx_Enable parameter. Upon the receipt of this primitive, the Clause 100 PMD turns the transmitter on or off as appropriate."
to
"In the CNU only, the semantics of the service primitive are PMD_SIGNAL.request(Tx_Enable). The Tx_Enable parameter can take on one of two values: ON or OFF, determining whether the PMD transmitter is on (enabled) or off (disabled). Upon the receipt of this primitive, the Clause 100 PMD turns the transmitter on or off as appropriate."
4) Change para beginning Page 87, Line 1:
"In the CNU only both the PCS data detector and the PHY Link may set PMD_SIGNAL.request() (see 101.3.2.5.7 and 102.3.1.3). In the PMD, the ON value is the OR product of the PMD_SIGNAL.request() set to the value ON from the PCS data detector with that from the PHY Link, signaling RF power amplifier turn on to the PMD; either the PCS data detector or the PHY Link may signal ON. When both the PCS and the PHY Link set the value to OFF, this signals RF power amplifier turn off to the PMD."
to
"As input the PMD, PMD_SIGNAL.request() is the OR product of the the signal from PCS data detector (see 101.3.2.5.7) with that from the PHY Link (see 102.3.1.3) signaling RF power amplifier turn on to the PMD; either the PCS data detector or the PHY Link may signal ON. When both the PCS and the PHY Link set the value to OFF, this signals RF power amplifier turn off to the PMD."

Cl **100** *SC* **100.1.4** *P* **83** *L* **10** # 3745

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *EZ*

"The data rate of a 10GPASS-XR PHY is dependent on network configuration (see Table 56-1)." - yet Table 56-1 lists only maximum values (up to) and says nothing about conditions you're referencing here, or what the relationship between said network conditions and effective data rate is.

SuggestedRemedy

It seems that reference to 100.2.6.1 and 100.2.6.2 for downstream and upstream directions, respectively, would be much better here, since at least you explain there how data rate is calculated.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Line 9. Change: "is defined in this clause" to "is defined in clause, with DS data rate calculation in 100.2.6.1"
Line 13: Change "is defined in this clause" to "is defined in this clause, with US data rate calculation in 100.2.6.2"

Coordinate changes with Comment #3708

Cl **103** *SC* **103.1** *P* **296** *L* **27** # 3746

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

The statement "There are a number of variables, constants and functions that are complementary to those defined for EPON Multipoint MAC Control but that are unique to EPoC. These are listed in Table 103-1." speaks of variables and functions complementary to EPON, but unique to EPoC - given that Clause 103 is defined as standalone and relies only m inimally on Clause 77, there is little sense to list such variables / functions.

SuggestedRemedy

Remove the statement and Table 103-1 - there is nothing it adds to understanding MPCP for EPoC and only introduces confusion by speaking of complementary but unique variables / functions.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This statement and Table 103-1 will be benificial to the reader in understanding the subtile differences between the existing MAC control for EPON and what is needed for EPoC. Should the TF reconsider this position the table can be removed.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **103** *SC* **103.1.1** *P* **297** *L* **24** # 3747

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *EZ*

Goals and objectives NO MORE!

SuggestedRemedy

There is no value in listing goals and objectives - new projects do not define them at all.
Strike 103.1.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
However I doubt you will get a TF formed without any objectives :-)

Cl **103** *SC* **103.1.2** *P* **297** *L* **34** # 3748

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *EZ*

This statement is NOT correct in Clause 103: "Multipoint MAC Control defines the MAC control operation for optical point-to-multipoint networks."

SuggestedRemedy

Change to "Multipoint MAC Control specified in this clause defines the MAC control operation for coaxial distribution networks."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to: "Multipoint MAC Control in this clause defines the MAC control operation for point-to-multipoint networks over coaxial cable distribution networks."

Cl **103** *SC* **103.2.1** *P* **301** *L* **49** # 3749

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"The principles of Multipoint MAC Control is the same as those described in 77.2.1 for EPON." - either you define Clause 103 as delta from Clause 77 for EPoC, or you define it as standalone, and reference CLause 77 as little as possible. Now it is neither

SuggestedRemedy

Discuss in TF and decide whether Clause 103 is supposed to be standalone relative to Clause 77 (and then content in 103.2.1 needs to replicated from Clause 77) or just a delta from Clause 77 (then a lot of text is not needed, e.g., 103.1.4, 103.1.5, etc. could be removed with pointers to Clause 77)

My personal opinion is that the second approach (delta) would be simpler to maintain, but might be harder to read. The first approach creates cleaner specification, but creates a complete copy of Clause 77 where changes specific to EPoC are very few and far between.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
(as there will be no changes to the draft due to this comment). This was already discussed by the TF and it was decided the delta approach would be best (an yes it is easier to maintain).

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **103** *SC* **103.2.2.1** *P* **304** *L* **5** # 3750

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"This constant represents the approximate size of FEC codeword in whole octets" - is strikes me that approximate value requires information about precision, which is not given

SuggestedRemedy

Change to "This constant represents the size of FEC codeword expressed in units of octets" Likely, the addition "DS_FEC_Pld_Sz + DS_FEC_Prty_Sz" should be taken in floor / ceil, whichever is appropriate here.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The statement is accurate as written. An integer cannot acurately indicate the size of the FEC Codeword in octets as this requires a fractional number. DS_FEC_Pld_Sz + DS_FEC_Prty_Sz are both integers so no floor/ceiling function is needed. Precision is indicated as whole octets.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **103** *SC* **103.2.2.1** *P* **304** *L* **11** # 3751

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"This constant represents the exact size of the FEC codeword in whole and fractional octets." - there is no such unit as whole and fractional octets. There are just octets

SuggestedRemedy

Change to read: "This constant represents the exact size of the FEC codeword expressed in units of octets."

Also, calculation in Value: is unclear: 1760+2944/13 (1760 +(1840*64/65/8) - what is the sign between "13" and "(" ?????

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Reword as suggested. Add the word "or" so value reads: 1760+2944/13 or 1760 +(1840*64/65/8)

Cl **103** *SC* **103.2.2.1** *P* **304** *L* **21** # 3752

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"VALUE: 1760 1760 (220 block of 64-bits as seen from the MAC Table 101-2)" - provide SINGLE value (why there are two???) and additional explanation is not needed - we do not need to justify the selected values, just provide the correct values

SuggestedRemedy

Change to "Value: 1760"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove duplicate value, keep the clarification as an aid to the reader explaining how the value is derived.

Cl **103** *SC* **103.2.2.3** *P* **305** *L* **49** # 3753

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Soc*

Definition of Octet_CLK is unclear - the way it reads, it is held in TRUE state all the time

SuggestedRemedy

Provide a clearer definition of what Octet_CLK is intended to do - it seems that it is a representation of a clock derived from MAC data rate, but note that MAC Control is NOT aware of the clock rate of MAC, and furthermore, it does not deliver data per octet, but rather whole frame at a time, and then waits for MAC to rpocess - primitive is messagfe and not octet oriented.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change the definition from "This Boolean value is TRUE for every octet time period, i.e. the amount of time used to transmit one octet in 10Gb/s MAC data rate." to
"This clear on read Boolean value is TRUE for every octet time period, i.e. the amount of time used to transmit one octet in 10Gb/s MAC data rate."

Cl **103** *SC* **103.2.2.3** *P* **306** *L* **21** # 3754

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Very cofnusing definition of packet_initiate_delay variable - first we provide its definition and then say it is defined elsewhere - which is it then ?

SuggestedRemedy

Decide whether the variable packet_initiate_delay is defined in here in 103.2.2.3 (and then remove any references to 77.2.2.3) or it is defined through reference to 77.2.2.3 (and then local definition is not needed)

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The intent here is to make the clause easier to understand for those familiar with EPON. The wording used here is specifically non-normative as the rulling definition is that being adopted from Cl 77. However, the commenter has noted before that it is poor form to expect a reader to constantly shift back and forth between different clauses, especially when they are in different Sections of the Standard, thus the initial definition in Cl 103 includes the definition and a ref back to the def in Cl 64 or 77 whereas subsequent defintions in Cl 103 only the initial def in Cl 103. Should the TF wish to reconsider this strategy this change would be in order
Also see Cmt# 3746

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **103** *SC* **103.2.2.3** *P* **306** *L* **27** # 3755

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Even if the variable is used in equation, it is not defined there - Type, description are missing - reference to Equation 101-1 would be then placed in Value: statement

SuggestedRemedy

Add missing type and description. Add "Value: see Equation 101-1"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The standard does not specify a value for variables. Type is clearly indicated in the referenced normative definition and should not be duplicated to avoid inconsistency/synchronization issues.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **103** *SC* **103.2.2.4** *P* **307** *L* **36** # 3756

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Multiple references to fecPldSz, fecCwSz variables / arrays without definition

SuggestedRemedy

Define fecPldSz, fecCwSz (add to variables) or point to what they are (if defined elsewhere in text)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add variables
fecPldSz TYPE: integer fecPldSz is an alias for DS_FEC_Pld_Sz
fecCwSz TYPE: real number fecCwSz is an alias for DS_FEC_CW_Sz_FRAC

Cl **103** *SC* **103.2.2.4** *P* **308** *L* **27** # 3757

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Beta, Soc*

Given that beta is a parameter passed into Derating_Overhead function, it should be calculated first. Furthermore, given that it is calculated internallt in the function, what is the point of passing it into PHY_Overhead function?

SuggestedRemedy

Remove beta parameter from PHY_Overhead function definition - it is calculated internally anyway.
Roll beta calculation into Derating_Overhead function - there is space for it and it is the only location where it is used anyway. Then remove it from definition of Derating_Overhead, which really needs to take just "length" parameter

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Also see CMT# 3761, 3762
Also change in Fig 103-8

Cl **103** *SC* **103.2.2.4** *P* **308** *L* **24** # 3758

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

FEC_CODEWORD_SIZE_FRAC, FEC_PAYLOAD_SIZE, and FEC_PARITY_SIZE are NOT defined anywhere

SuggestedRemedy

Please define what FEC_CODEWORD_SIZE_FRAC, FEC_PAYLOAD_SIZE, and FEC_PARITY_SIZE are

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change FEC_CODEWORD_SIZE_FRAC, FEC_PAYLOAD_SIZE, and FEC_PARITY_SIZE to DS_FEC_CW_Sz_FRAC, DS_FEC_Pld_Sz, and DS_FEC_Prty_Sz, respectively.

Cl **103** *SC* **103.2.2.4** *P* **308** *L* **27** # 3759

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *EZ*

XGMII_Rate and PCS_Rate is not defined in Clause 103. They are defined in Clause 101, but they should be listed as variables / constants in 103.2.2.3 and then point back to definition in Clause 101

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.7** *P* **309** *L* **49** # 3760

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Soc*

What is a "CLT fecOffsetC state diagram" and why is it here in the first place? There is no reference to this SD in lines 21-25.
Note also that this SD is driven by Octet_CLK, whereas within MAC Control the notion of octet time does not really exist.

SuggestedRemedy

The purpose of the state diagram in Figure 103-8 is not clear, as well as it is not clear how it interacts with other SDs (Figure 103-9 through 103-14)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change:
"The Multipoint transmission control function in the CLT shall implement state diagram shown in Figure 103–9."
to :
"The Multipoint transmission control function in the CLT shall implement state diagram shown in Figure 103-8 and Figure 103–9."

fecOffsetC is used in Fig 103-12 to exit WAIT FOR TRANSMIT state

Cl **103** *SC* **103.2.2.7** *P* **313** *L* **35** # 3761

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Beta*

"length <= sizeof(data_tx) + tailGuard" is assigned value only to be used in the next line - no need to create a local variable that is consumed in the next line

SuggestedRemedy

remove "length <= sizeof(data_tx) + tailGuard"
change "packet_initiate_delay <= PHY_Overhead(length, B)" to "packet_initiate_delay <= PHY_Overhead(sizeof(data_tx) + tailGuard, B)"

Note another comment about the use of Beta in equations, which does not change at all and does not need to be passed explicitly into functions!!!

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See CMT# 3757.
Change to "packet_initiate_delay <= PHY_Overhead(sizeof(data_tx) + tailGuard)"

Cl **103** *SC* **103.2.2.7** *P* **314** *L* **40** # 3762

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Beta*

Note another comment about the use of Beta in equations, which does not change at all and does not need to be passed explicitly into functions!!!

SuggestedRemedy

Remove Beta in line 40 - it does not need to be passed explicitly into functions within SDs - it is not set anywhere in SD anyway

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See CMT# 3757.

Cl **103** *SC* **103.3.2.4** *P* **315** *L* **43** # 3763

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"The CLT shall ensure that a minimum gap time between bursts from any two CNUs equal to the transmission time of one (1) resource block expressed in units of time_quantaum." - what is the duration of the said "resource block" and where is it defined?

SuggestedRemedy

There is no need to recalculate "resource block" into time_quanta as long as there is definition of the said "resource block". Provide definition (or reference to definition) of resource block and remove "expressed in units of time_quantaum"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Now in draft we have a mix of "resource block" and "Resource Block" change so it is consistent.
I could find no formal def. for a resource block however we do use Rbsize (Boolean) and RBlen (value of 8 or 16), neither of which seem quite correct in this context.
Suggest defining new variable RB_GapTm TYPE: Integer defined as "minimum gap time between bursts from any two CNUs" RB_GapTm = ceiling(Rblen * (USNcp + USNrp)/204.8/16).
Add Ref definitions for RBlen, USNcp & USNrp.
Change "The CLT shall ensure that a minimum gap time between bursts from any two CNUs equal to the transmission time of one (1) resource block expressed in units of time_quantaum." to "The CLT shall ensure that a minimum gap time between bursts from any two CNUs equal to RB_GrdTm."
Update PICS CC5 accordingly.

Cl **103** *SC* **103.3.3.1** *P* **317** *L* **26** # 3764

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *rfOn/OffTime, Soc*

"This variable holds the time required to terminate the RF and is included for consistency with Clause 77."
What does it even mean? Something is passed through an interface and it is not even needed? If the same interface was to be reused, it was modified already, since discoveryInformation was removed anyway.

SuggestedRemedy

Remove rfOffTime, rfOnTime definitions in 103.3.3.1 (not needed) and remove it from all primitives (apparently not needed at all).
Similarly, it is not clear why "syncTime" is being used if it is zero for EPoC - just assign zero explicitly rather than create a variable and then assign zero to it !!!!

Proposed Response *Response Status* **W**

PROPOSED REJECT.
rfOffTime occurrs 25 times and rfOffTime occurrs 25 times in the draft. In addition there are the phrases "RF On Time" and "RF Off Time". syncTime occurs 6 times. It is felt by the TF that maintaining consistency with Cl 77 SD's out weights the need to simplify the SD's in the Draft. The TF may wish to reconsider this position.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **103** *SC* **103.3.3.5** *P* **319** *L* **4** # 3765

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *rfOn/OffTime, Soc*

"sync_time: The time interval required to stabilize the receiver at the CLT." - but before it was stated that sync_time is not needed (and defined only for compatibility with EPON, whatever it means)

SuggestedRemedy

Remove sync_time parameter from MA_CONTROL.request(DA, GATE, discovery, start, length, discovery_length, sync_time) primitive, respective MPCPDUs and state diagrams in 103.3.3.6

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See Cmt# 3764

Cl **103** *SC* **103.3.3.5** *P* **319** *L* **27** # 3766

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *rfOn/OffTime, Soc*

But before it was stated that rfOnTime / rfOffTime do not have really any meaning in EPoC.

SuggestedRemedy

Remove rfOnTime / rfOffTime from primitives MA_CONTROL.request(DA,REGISTER_REQ,status,rfOnTime,rfOffTime) and MA_CONTROL.indication(REGISTER_REQ, status, flags, pending_grants, RTT, rfOnTime, rfOffTime) and MA_CONTROL.request(DA, REGISTER, LLID, status, pending_grants, rfOnTime, rfOffTime) as well as from respective MPCPDUs

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See Cmt# 3764

Cl **103** *SC* **103.3.3.6** *P* **324** *L* **17** # 3767

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Condition missing for transition between "WAIT FOR REGISTER_ACK" state and "COMPLETE DISCOVERY" state.
Missing exit conditions from "COMPLETE DISCOVERY" state

SuggestedRemedy

Insert the missing conditions, likely following Figure 77–22

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed from Pg 324 to 325
Between WAIT FOR REGISTER_ACK and COMPLETE DISCOVERY add opcode_rx = REGISTER_ACK
Between COMPLETE DISCOVERY and VERIFY ACK add flag_rx = ACK
Between COMPLETE DISCOVERY and DISCOVERY NACK add flag_rx != ACK

Cl **103** *SC* **103.3.4** *P* **327** *L* **1** # 3768

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

The whole Report Processing is an exact mirror copy of Report Processing from Clause 77.

SuggestedRemedy

Leave "Report processing in EPoC is as described in 77.3.4." and remove everything else within 103.3.4 - repetition is not needed, there are no EPoC specific changes here.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.6** *P* **339** *L* **6** # 3769

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"Note that Figure 103–29 below is a copy of Figure 77-31 and is included for reference only." - such copies are not needed, especially since Figure 103-29 is neither referenced here not useful.

SuggestedRemedy

Remove statement "Note that Figure 103–29 below is a copy of Figure 77-31 and is included for reference only." and Figure 103–29

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

*** Confirm TF agrees ***

Cl **103** *SC* **103.3.6.1** *P* **339** *L* **28** # 3770

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *rfOn/OffTime, Soc*

The GATE used in EPoC is the same as that described in 77.3.6.1 with the following exceptions. In EPoC rfOnTime and rfOffTime replace laserOnTime and laserOffTime, respectively. The 16-bit Discovery Infor mation register described in 77.3.6.1 is not used in EPoC; all bits in this register are reserved and ignored on reception.

Based on the reading of text previous to 103.3.6, I was under impression that rfOnTime and rfOffTime is not used at all and assigned always zeros - see 103.3.3.1. In this case, there is no need to shuttle them back and forth between CNU and CLT.

SuggestedRemedy

Replace "The GATE used in EPoC is the same as that described in 77.3.6.1" with "The GATE MPCPDU used in EPoC is the same as that described in 77.3.6.1"
Replace "In EPoC rfOnTime and rfOffTime replace laserOnTime and laserOffTime, respectively. The 16-bit Discovery Information register described in 77.3.6.1 is not used in EPoC; all bits in this register are reserved and ignored on reception." with "The laserOnTime, laserOffTime, and Discovery Information fields described in 77.3.6.1 are not used in EPoC and are always set to zero on transmit and ignored on reception."
Remove Figure 103-30 and Table 103-2 - they are not needed at all - reference to 77.3.6.1 is sufficient to cover GATE MPCPDU.
Remove all instances where rfOnTime and rfOffTime is used explicitly in primitives and definitions - these are not needed. Respective fields in MPCPDUs should be set to zeros explicitly in state diagrams.
Similarly, in 103.3.6.3, change "In EPoC RF On Time and RF Off Time fields replace Laser On Time and Laser Off Time fields, respectively. The 16-bit Discovery Information register described in 77.3.6.3 is not used in EPoC; all bits in this register are reserved and ignored on reception." to read "The laserOnTime, laserOffTime, and Discovery Information fields described in 77.3.6.3 are not used in EPoC and are always set to zero on transmit and ignored on reception.". Remove Figure 103-32
Similarly, in 103.3.6.4, change "In EPoC the Sync Time field is calculated using rfOnTime, rfOffTime rather than the laserOnTime and laserOffTime used in 77.3.6.4." to read "The Target Laser On Time and Target Laser Off Time fields described in 77.3.6.4 are not used in EPoC and are always set to zero on transmit and ignored on reception.". Remove Figure 103-33

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See Cmt# 3764

Cl **103** *SC* **103.3.6.2** *P* **340** *L* **52** # 3771

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Statement "The REPORT description for EPoC is identical to that of EPON.." is not consistent with the way GATE is described, for example.

SuggestedRemedy

Change to "The REPORT MPCPDU used in EPoC is the same as that described in 77.3.6.2.".
Remove all other content of 103.3.6.2, including Figure 103–31

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add to the end of the commented sentence "(see 64.3.6.2)"
Remove extra period and Fig 103-31 as suggested.

Cl **103** *SC* **103.4.3.4** *P* **349** *L* **5** # 3772

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Multiple issues with MP PICS:
- MP1: structure references 77.3.6 as normative, but Value points to Figure 103-29. Replace with proper Figure from Clause 77
- two MP16 entries: second one should be MP17
- the purpose of second MP16 is unclear: "MAC Control interface has prioroty over other clients" tracing the reference to "shall" indicates "In this case, one of the interfaces with a pending MAC Control frame shall be
enabled as described in 64.2.2.4.""but this statement back references 64.2.2.4, which has no such requirement. This item should be removed, together with the respective sentence in 103.2.2.4, which makes little sense.

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
AIP - MP1: Replace fig ref with "Figure 77–31"
Accept - two MP16 entries: Replace second MP17 with one MP17
AIP - the purpose of second MP16 is unclear: Replace ref to 103.2.2.4 with 64.2.2.4
From 64.2.2.4
"SelectFrame()
This function enables the interface, … except for the case when some of the pending frames have Length/Type = MAC_Control. In this case, one of the interfaces with a pending MAC Control frame shall be enabled."

Cl **103** *SC* **103.3.5.6** *P* **336** *L* **32** # 3773

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *EZ*

Comparing Gate Processing state diagram at CLT for EPoC and EPON (Figure 77–28), for some reason transition from SEND GATE / PERIODIC TRANSMISSION states is made back to WAIT state and not back to WAIT FOR GATE state as it is in Figure 77–28

SuggestedRemedy

There is no justification for this change - please align with Figure 77–28

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.5** *P* **330** *L* **30** # 3774

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

It seems that Gate processing in EPoC uses the very same state diagrams as the ones used in EPON, with changes only to some of the values / parameters and their definitions:
- min_processing_time has different value in EPoC than in EPON
- BurstOverhead has different definition
- minor changes in effectiveLengthC relative to effectiveLength
- minor changes in maxDelay
- major changes in minGrantLengthC relative to minGrantLength
- minor changes in rndDlyTmrC

SuggestedRemedy

Rather than replicate everything from 103.3.5, I suggest to do what follows:
- under 103.3.5, use the following text: "The Gate processing in EPoC is as described in 77.3.5, with changes to the following constants, variables, and functions as listed in the following subclauses."
- insert "103.3.5.1 Constants" with the following text: "See constants defined in 77.3.5.1, with the following EPoC-specific exceptions." + add min_processing_time definition and new value
- insert "103.3.5.2 Variables" with the following text: "See variables defined in 77.3.5.2, with the following EPoC-specific exceptions." + add only variables changed in EPoC
- similar change for "103.3.5.3 Functions" and "103.3.5.4 Timers"
- remove "103.3.5.5 Messages" - no changes from EPON, and "103.3.5.6 State diagrams" = again, no changes from EPON.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
While I generally like the idea it would create problem in this instance as there are several difference between Cl 77 & 103. For example:
minGrantLength vs minGrantLengthC
BurstOverhead(77) vs BurstTimeHeader()(103, includes BurstTimeHeader()).

Remove tqSizeC pg 331 ln 38
Rename BurstTimeHeader() to BurstTimeHeaderC(), add to table 103-1

Cl **100A** *SC* **100A.2** *P* **352** *L* **4** # 3775

Hajduczenia, Marek Bright House Networks

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

"These parameters are base on the following conditions:" - likely, "These parameters are >>based<< on the following conditions:"

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment #3778

Cl **100A** *SC* **100A.1** *P* **351** *L* **47** # 3776

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Figure 100A-1 does not make much sense - it focuses on the application og CLT fed via OLT, which is outside of the scope of EPoC.

SuggestedRemedy

Remove EPON OLT and connection from EPON OLT - CLT may be shown as fed from headend or located within the headend - it does not matter as far as EPoC architecture is concerned.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
With these changes also need to show HFC operation with respect to placement of individual CLT attachment locations after an HFC node. Consider showing "optical to electrical" and "electrical to optical" conversion functions, as appropriate.

Cl **100A** *SC* **100A.1** *P* **351** *L* **22** # 3777

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

The upper part of Figure 100A-1 does not show CNU location - it is not clear what this is intended to demonstrate and how it irelated with normative EPoC channel parameters.

SuggestedRemedy

Remove the upper part of Figure 100A-1.
In the bottom part, demonstrate a connection from CLT, via optional amp, into a tap connected to a 2-way splitter and then EPoC CNU.
Demark is not defined in any way, form, or fashion in EPoC and it is meaningless to demonstrate it in the figure.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add a dotted line between and upper TAP and the lower TAP to indicate it is a connected tree and branch network. Showing an example of the CLT connecting after an HFC node is important. Remove Demark and box from the figure.

Cl **100A** *SC* **100A.2** *P* **252** *L* **6** # 3778

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

The list in lines 6-14 is very confusing - it is quoted as normative, yet it covers a lot of services and definitions that are not defined in EPoC in any way, for example: "75 digital TV channels" - what impact does it have and why it is even important?

SuggestedRemedy

Remove the list and statement "These parameters are base on the following conditions:" - Table 100A-1 should be sufficient to characterize the EPoC CCDN
Similarly, the list in 100A.3 and statement "These parameters are base on the following conditions:" above need to go

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Page 252 is incorrect, assuming page 352.
Line 6, "base" should be "based"
Otherwise, Table 100A-1 is based on the required system setup as described in Lines 6 through 13 and removal of the list would remove the setup conditions and would be inappropriate for the model and establishment of baseline channel conditions. Same with the following subclause.

Cl **100A** *SC* **100A.2** *P* **352** *L* **16** # 3779

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

There are numerous issues with Table 100A-1, mainly in terms of missing definitions and impact on CCDN definiton required for EPoC:
- Frequency range: is this the intended minimum frequency range for cabling supporting EPoC? If not, what it is then?
- what is "OFDM Bandwidth"? It is used in table as normative, yet it seems that it is the EPoC ODFM band but defined using a different term. Ratioanlize with the rest of the draft
- what is CPE in "OFDM Power at CPE Input"? It seems that it is the power level at input to CNU?
- "BW" is used quite liberarly as a short form for "bandwidth", yet it is not defined anywhere really
- given that the minimum OFDM band for EPoC is 192 MHz, what is the point of defining OFDM power levels for 6, 24, 96 MHz ????
- "signal-to-noise ratio" entry has then"Signal to Composite Noise Ratio" used - which is it then?? Again, not clear why SCN is defined for 6, 24, 96 MHz when minimum OFDM band for EPoC is 192 MHz
- CTB / CSO interference is NOT defined, yet used as a normative parameter
- many other terms that are not defined anywhere: Narrowband Interference (Other), Wideband Interference, Impulse (white) Noise, Amplitude Slope,Amplitude Variation, etc. - these are all new terms in 802.3 in the context of CCDN and need references for definition or a local definition, whichever is appropriate.
- many of the NOTEs to parameters in table are meaningless, e.g.: "Measured @700 to 800 MHz, representative of 99% of modems" - what are "modems"? "SCTE Definition, Echo not included" - where is the reference to said SCTE definition? "Small drop slope effect on calculation" - what does it even mean???? "Worst spectrum regions for CTB and CSO are not the same" - why does it matter, given that CTB / CSO spectrum is not demonstrated at all

SuggestedRemedy

Per comment for Table 100A-1 and Table 100A-2

The only thing we should be specifying in EPoC is: PMD operation (transmit and receive requirements, immunity to noise, impairments, etc.) and type of cable plant on which EPoC is guaranteed to operate. Content of Table 100A-1 and Table 100A-2 is unclear and seems to cover more of conditions for coexisting services on the same CCDN rather than EPoC plant definition.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Appendix 100A specifies the normative channel model that was adopted in order to support the error performance studies, etc. and to establish operation under our baseline channel conditions operating on a CCDN with other cable operator services for support of "PMD operation (transmit and receive requirements, immunity to noise, impairments, etc.) and type of cable plant on which EPoC is guaranteed to operate". This includes the ingress and egress noise products and impairments from coexisting services and other sources. In terms of satisfying objectives, this model is required for "Define required plant configurations and conditions within an overall coaxial network operating model", "PHY to operate in the cable spectrum assigned for its operation without causing harmful interference to any signals or services carried in the remainder of the cable spectrum." as well as some other performance related objectives.

The Task Force may wish to change this to an accept in principle and consider the following or additional updates:
Page 352,
Line 22: update frequency range to that in Table 100-3?
Line 23: "OFDM bandwidth" change to "OFDM encompassed spectrum"
Line 27: consider expanding "BW" to "bandwidth" or indicate in some other manner. This includes Table 100A-2.
Line 28: consider separately removing rows for "6 MHz" and "24 MHz"
Line 34-42: consider removing rows for concerned with 24 MHz and changing "Group Delay Variation" to "Group delay variation over 192 MHz". Apply same decision respectively to Table 100A-2, if needed or treat Table 100A-2 differently.
Page 354,
Line 14: Expand on definition of "small drop slope effect"
Line 28: change "modems" to "CNUs".

Page 355,
Line 7: update frequency range to match Table 100-11?
Line 42-44: are the 24 MHz and 96 MHz rows necessary for this model and/or EPoC upstream at this point? If not, remove.

Entire table 100A-1 and 100A-2, capitalize only the first word in Parameter column.

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **14** # 3780

Hajduczenia, Marek Bright House Networks

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

Missing "."

SuggestedRemedy

Add missing "."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **30** # 3781
Hajduczenia, Marek Bright House Networks

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

"The resulting FP bits" should be "The resulting F>>P<< bits", where >>p<< is in subscript to match the following text / figures.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.2** *P* **147** *L* **43** # 3782
Hajduczenia, Marek Bright House Networks

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

There are two instances in Figure 101-7 of "65 bit block" which should be "65-bit block" - "65 bit" is an adjective in here

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **10** # 3783
Hajduczenia, Marek Bright House Networks

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

"associate US Filling Threshold FT" - "associate" or "associated" ???

SuggestedRemedy

I think adjective here ("associated") is correct. "Associate" (noun / verb) is not.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Cmt# 3811

Cl **101** *SC* **101.3.2.5.8** *P* **157** *L* **13** # 3784
Hajduczenia, Marek Bright House Networks

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

Inconsistent state naming policy. I believe most states use all caps with "_" between individual compound words.

SuggestedRemedy

Change "WAIT FOR CALL" to "WAIT_FOR_CALL". Make sure all states in all state diagrams in this draft follow the same naming logic.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **101.1.3** *P* **128** *L* **1** # 3785
Hajduczenia, Marek Bright House Networks

Comment Type **E** *Comment Status* **D** *Cl 45 Xref Tables*

Center alignment of Register / bit number column looks just odd - bit numbers are not of the same length and current pattern is just hard to read.

SuggestedRemedy

Suggest to right align information in this column. The same for Index and Bit(s) columns, please.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Cl 00
For all variable xref tables (Cl 100, 101 & 102)
change to Register / bit number to justified (do NOT include header), others as is.

Cl **101** *SC* **101.2.1** *P* **133** *L* **12** # 3786
Hajduczenia, Marek Bright House Networks

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

The first reference to Figure 101-1 is on page 133, line 12, yet figure is on page 132.

SuggestedRemedy

Move figure 101-1 to a location after 101.2.1, where it is first called out.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.6** *P* **151** *L* **8** # 3787

Hajduczenia, Marek Bright House Networks

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

Variable formatting (for umth time): "left-most bit is tx_coded_out<0> and the right-most bit is tx_coded_out<FC-1>."

SuggestedRemedy

Be consistent with the way variable names are italicized !

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Cmt# 3793

Cl **101** *SC* **101.3.2.5.7** *P* **151** *L* **21** # 3788

Hajduczenia, Marek Bright House Networks

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

Inconsistent formatting for hex number: 0x D8 58 E4 AB

SuggestedRemedy

change "0x D8 58 E4 AB" to "0xD858E4AB" or "0xD8-58-E4-AB" if you want to separate out individual 8 bit values.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"0xD858E4AB"

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **28** # 3789

Hajduczenia, Marek Bright House Networks

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

Dead references: "Figure 100-3 and 100.2.9.7"

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.8** *P* **155** *L* **9** # 3790

Hajduczenia, Marek Bright House Networks

Comment Type **E** *Comment Status* **D** *Fig 101-9*

Arrow entering RESET state from the right does not reach the state. Also, the same transition line seems to have an extra dash under CALCULATE_CRC40_AND_PARITY state, on the right to "CLK" condition

SuggestedRemedy

Fix both issues

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
And convert to native FrameMaker format.
See remein_3bn_21_0915

Cl **101** *SC* **101.3.2.1.2** *P* **136** *L* **41** # 3791

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *remein_22*

Equation is unnumbered and broken into two lines

SuggestedRemedy

Add number
Make sure that equation is not broken into two lines. Decreasing the size of equation text might help quote a lot here. If that does not help, consider shortening the names of individual variables to make them occupt less space

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add number only

This change is included in remein_3bn_22_0915

Cl **101** *SC* **101.3.2.4** *P* **142** *L* **1** # 3792

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

"LDPC (16200, 14400)" gets broken across lines of text.

SuggestedRemedy

Either a) manually fix each reference to LDPC in text and make sure it does not get broken across lines of text, or b) use "LDPC(16200,14400)" (note no spaces) which will be treated as a single word and not broken across line.
Approach b) is recommended.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change (29x)
"LDPC (" to
"LDPC("
and change (8x)
"16200, 14400" tp
"16200,14400"
and change (4x)
"1120, 840" to
"1120,840"
and change (2x)
"5940, 5040" to
"5940,5040"

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **10** # 3793

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

In many locations in Clause 100, 103, and 102, variables are itialicized for better readability. Clause 101 is kind of in between, with some variables italicized and some not.

SuggestedRemedy

Consider itialicizing variable names for better readability - applicable to the whole draft!

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Italicized and variable names not noticed as such.

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **21** # 3794

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

"IdleBlockCount" does not seem to follow prevailing variable naming scheme

SuggestedRemedy

Rename to "idleBlockCount"
it would be also valuable to organize locally defined (specific to EPoC) variable names across the whole draft so they use the same capitalization (naming) scheme. It seems that wordWordWordWordWord scheme is prevailing right now.
Examples of variable name changes in 101.3.2.5.6 include:
Short2Payload => short2Payload
Short2blockCount => short2BlockCount
IdleBlockCount => idleBlockCount
tx_coded => txCoded
tx_coded_out => txCodedOut
US_DataRate => usDataRate
BurstTimeHeader => burstTimeHeader
Calculate_CRC40_and_3Parity => calcCrc40 (does not seem that the function name needs to be longer than that)
etc.

I do realize it will take some work, but it simplifes reading variable names, and distinguishing them from surrounding text. Note that single word variables like "loc", "transmitting" should be avoided:
transmitting => txInProgress
loc => locInArray
are more descriptive and easy to distinguish from surrounding text

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This proposal to somehow normalize the variable naming across the draft was considered and rejected already by the TF. However we can vote on it to ensure the will of the TF has not changed.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **22** # 3795

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D**

what type is it: "32 bit unsigned"? It is probably integer, and not real (floating point) number

SuggestedRemedy

Change "32 bit unsigned" to "32-bit unsigned integer"
Make sure all variables that are intended to be of integer type have the "integer" keyword in Type definition field.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change as proposed for IdleBlockCount

Cl **101** *SC* **101.1.3** *P* **130** *L* **22** # 3796

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *EZ*

Last column, line 22 contains statement "as above" - does it mean that this cell should contain value of 3:0? If so, why not just copy it in?????

SuggestedRemedy

Per comment - it is not clear what value is intended to be here. 3:0 seems like a likely suspect
There are also other instances of "as above" in the table without any need. Please use explicit values - such residrections are not needed
This becomes more complex to read, especially when "as above" points to previous page (see top of page 131 for example)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Added pg 130 line 22

Replace "as above" at Pg/Ln with entry for index listed:
Pg/Ln Index
84/39 1001
85/7 1024
85/36 11241
130/22 1001
131/7 1024
245/46 1001

Cl **101** *SC* **101.1.3** *P* **128** *L* **1** # 3797

Hajduczenia, Marek Bright House Networks

Comment Type **ER** *Comment Status* **D** *Cl 45 Xref Tables, Soc*

Is there any reason why Table 101-1 could not be reproduced only once, say, in Clause 100 (first one to be read) and then just reference it in Clause 101 and wherever else it might be needed?

SuggestedRemedy

Consider merging Table 101-1 and Table 100-1 and Table 102–3 into a single one, preferably located in Clause 100, and then reference this table rather than repeat the same information in three different locations

Proposed Response *Response Status* **W**

PROPOSED REJECT.
A single table in Cl 100 would be inconvenient for the reader of Cl 101 or 102.
The task force should determine if this is accepted or rejected

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **101** *SC* **101.3.2.1.2** *P* **136** *L* **25** # 3798

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *EZ, remein_22*

Equations 101-1 is not referenced in text

SuggestedRemedy

Add the following statement at the end of PCS_Rate definition: ", as defined in Equation (101-1)". Make link live.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This change is included in remein_3bn_22_0915

Cl **101** *SC* **101.3.2.1.2** *P* **136** *L* **31** # 3799

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *remein_22*

Position references are bad, especially if text is reflowed by staff editors when amendment is prepared for integration.

SuggestedRemedy

Change "PHY_OSize is determined by" to "The value of PHY_OSize is calculated based on Equation (101-2)." - make sure the link is live.

Similar change needed in PHY_OSizeFrac variable (page 136, line 38/39, to tie it to what should be equation 101-3 (lines 41-44, page 136).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change
"PHY_Osize is determined by" to
"PHY_Osize is defined in Equation (101-2)."

Change
"The PHY_OSizeFrac is given by" to
"PHY_OSizeFrac is defined in Equation (101-3)"
Add Eq number to PHY_OSizeFrac equation ln 42

This change is included in remein_3bn_22_0915

Cl **101** *SC* **101.3.2.1.5** *P* **138** *L* **9** # 3800

Hajduczenia, Marek Bright House Networks

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

accResidue variable is a floating / real variable and should be loaded with 0.0 instead of 0 to emphasize this point

SuggestedRemedy

Change "accResidue <= 0" to "accResidue <= 0.0"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Zero is always zero no matter how many decimal places you use.

Cl **101** *SC* **101.3.2.1.5** *P* **138** *L* **1** # 3801

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *remein_22*

The variable PHY_RSize is really not needed in the state diagram

SuggestedRemedy

Merge UPDATE_RESIDUE and UPDATE_COUNTERS states into a single state called UPDATE_COUNTERS with the following content

accResidue += PHY_OSizeFrac
countDelete += (PHY_OSize + floor(accResidue))
accResidue -= floor(accResidue)
countVectorT <= 0

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This change is included in remein_3bn_22_0915

Cl **101** *SC* **101.3.2.2** *P* **140** *L* **47** # 3802

Hajduczenia, Marek Bright House Networks

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

Rather than repeat all this text on how it is different from Clause 49 encoder, why not point just point to 76.3.2.2, which provides the same details, without unnecessary fluff ?

SuggestedRemedy

Replace text on page 140, lines 48-52, with "See 76.3.2.2."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Cl 76.3.2.2 does not take exception to the CL 49 scrambler function as is done in EPoC.

Cl **101** *SC* **101.3.2.3** *P* **141** *L* **12** # 3803

Hajduczenia, Marek Bright House Networks

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

"initialized to the value 0x00" - given that the register is 40 bits long, 0x00 covers only 8 bits of 40 bits in this register. What happens with the remaining 32 bits?

SuggestedRemedy

Change "initialized to the value 0x00" to "initialized to the value 0x0000000000", which represents a 40-bit all 0s value in hex

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to "value zero", which is the same regardless of the number base

Cl **101** *SC* **101.3.2.5.1** *P* **143** *L* **53** # 3804

Hajduczenia, Marek Bright House Networks

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

"The length of the FIFO_FEC_TX buffer is selected in such a way that it is large enough to compensate for the insertion of the FEC parity data and CRC40, as defined in 101.3.2.5.2".
Two issues here:
a) 101.3.2.5.2 does not define anything related with CRC40
b) statements in 101.3.2.1 speak about FEC overhead compensation sub-process and data rate adaptation sub-process, implying that there is FEC overhead and PHY overhead - the same language should be used in here as well

SuggestedRemedy

Change to read "The length of the FIFO_FEC_TX buffer is selected in such a way that it is large enough to compensate for the FEC overhead and PHY overhead, as discussed in 101.3.2.1." - make link live

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.1** *P* **145** *L* **1** # 3805

Hajduczenia, Marek Bright House Networks

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

The statement in lines 1-7, including the formula, should be included in the definition of the FIFO_FEC_TX size, and not just in text.

SuggestedRemedy

Remove the indicated lines on page 145.
Update the definition of FIFO_FEC_TX in 101.3.2.5.6 by adding the following statement to the end of definition: "The size of FIFO_FEC_TX buffer in the 10GPASS-XR CLT PCS is set to 29 = ceil {(1800+40)/65}."
If the statement on CLT buffer size is added, the CNU buffer size should be also calculated, as the worst case scenario (minimum packet sizes, shortest code word + CRC40)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per comment.
It is not clear what the IF statement in the suggested remedy is meant to add to the draft and will not be acted on.

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **30** # 3806

Hajduczenia, Marek Bright House Networks

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

Is there any reason for the use of a hyphen in "LDPC-encoder"? We have "FEC Encoder", "64B/66B Encoder", but "LDPC-encoder" ????

SuggestedRemedy

Change all instances of "LDPC-encoder" to "LDPC Encoder", including figures

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace the 2 instances found on pg 145 ln 30 and 31.

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **31** # 3807

Hajduczenia, Marek Bright House Networks

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

The values "(14400 - 60 = 14340 bits)" are just examples for one specific LDPC codeword size, and not universally applicable.

SuggestedRemedy

Change "(14400 - 60 = 14340 bits)" to "(e.g., 14400 - 60 = 14340 bits)". The same change on page 145, line 33 where another specific numeric example is given.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per comment, note that on line these is an "i.e.," that should be removed.

Cl **101** *SC* **101.3.2.5.2** *P* **147** *L* **33** # 3808

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Burst Structure*

Figure 101–7 has a block indicating "First codeword starts with two
65 bit blocks containing Idle" but pointing to before the first FEC codeword.

SuggestedRemedy

First, change "First codeword" to "First FEC codeword" if that is what is intended.
Second, move the arrow for this block from where it is right now, to the first rectangle within the first FEC codeword - right now it is pointing to something outside of the FEC codeword and does not match the text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Extend arrow so it points to the 1st two idles similar to Fig 76-14

Cl **101** *SC* **101.3.2.5.2** *P* **147** *L* **38** # 3809

Hajduczenia, Marek Bright House Networks

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

Figure 101-7 uses two terms to mean the same: MAC data, and data.

SuggestedRemedy

I believe "data" is used more predominantly. Change "MAC Data" to "data"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
In EPoC we have two types of data; MAC and PHY Link. The clarification is needed in this instance. This also is consistent with Fig 76-14.

Cl **101** *SC* **101.3.2.5.2** *P* **146** *L* **47** # 3810

Hajduczenia, Marek Bright House Networks

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

"each FEC codeword (FEC CW)" - this is an odd place to add an acronym, whic his used only within Figure 101-7.

SuggestedRemedy

Remove "(FEC CW)" statement. In Figure 101–7, change "FEC CW1" to "FEC<n>codeword 1" (<n> = newline) and do the same change for "FEC CW2" - there is plenty of space to use.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **10** # 3811

Hajduczenia, Marek Bright House Networks

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

What does it mean: "Each codeword size has an associate US Filling Threshold FT with a specific threshold for each codeword size." - it seems like a circular definition at this time.

SuggestedRemedy

Seems that "Each codeword size has a specific, associated US Filling Threshold FT." would be sufficient

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **12** # 3812

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Soc*

The description in lines 12-26 is a tad chaotic - it uses B to designate burst size but also number of 65-bit blocks available for transmission.

SuggestedRemedy

The upstream burst filling process is described as follows:
START: Add burst start marker. Move to STEP 1.
STEP 1: If the number of available 65-bit blocks (Bin) is sufficient to fill a long FEC codeword (BQ >= 220), create a long FEC codeword. Repeat STEP 1 as long as Bin >= 220; otherwise move to STEP 2.
STEP 2: If 220 > Bin >= 101, create a shortened long FEC codeword and move to END; otherwise move to STEP 3.
STEP 3: If 101 > Bin >= 76, create a medium FEC codeword. Move to STEP 4.
STEP 4: If 76 > Bin >= 25, create a shortened medium FEC codeword and move to END; otherwise move to STEP 5.
STEP 5: If 25 > Bin >= 12, create a short FEC codeword. Move to STEP 6.
STEP 6: If 12 > Bin >= 1, create a shortened short FEC codeword and move to END.
END: Add burst end marker.

use appropriate formatting, as needed

Proposed Response *Response Status* **W**

PROPOSED REJECT.
I fail to see how replacing "B" with "Bin" is any more clear than the text in the draft. The construct "START .. STEP #, .. END" is not in the standard to my knowledge.
The text here is merely an informative description of the normative definition of Check_dataPayload(firstcodeword, lastcodeword) Pg 152 ln 18.

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **28** # 3813

Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Soc*

The description in lines 28-37 is another representation of the process descrribed above on the same page and it is not needed - not referenced anywhere else in the draft.

SuggestedRemedy

Remove lines 28-37

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.5** *P* **149** *L* **1** # 3814
Hajduczenia, Marek Bright House Networks

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

Overqualification: "The fixed size in bits of the downstream FEC LDPC output codeword."

SuggestedRemedy

Change to "The size (expressed in bits) of the downstream FEC codeword." - once FEC is defined as LDPC, no need to repeat that oevr and over again ;)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to
"The fixed size, in bits, of the downstream FEC codeword."

Cl **101** *SC* **101.3.2.5.6** *P* **149** *L* **13** # 3815
Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Soc*

"This variable represents the number of either 65-bit blocks or 66-bit blocks." - the way it is used, it reflects input into FEC encoder - Figure 101–9 (for example) calculates positions in increments of 65.

SuggestedRemedy

Change to "This variable represents the number of 65-bit blocks input into FEC Encoder."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **5** # 3816
Hajduczenia, Marek Bright House Networks

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

"A FIFO array used to store 65-bit blocks, inserted by the input process and retrieved by the output process in the FEC Encoder"

SuggestedRemedy

Please add references to figures that define the said input process and output process

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add ref to Figure 101-6

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **8** # 3817
Hajduczenia, Marek Bright House Networks

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

"firstcodeword" and "lastcodeword" do not follow naming conventions consistent for other variables.

SuggestedRemedy

Rename to "firstCodeWord" and "lastCodeWord"
Also, the definition of a "flag" is not existent. Replace "flag" with "variable" in definitions of both variables.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
There are no naming conventions defined or enforced for 802.3 projects that the editor is aware of.
The term "flag" appears 165 times in Section 5 of 802.3bx Draft 3.2 so apparently it is well known.

Cl **101** *SC* **101.3.2.5.8** *P* **155** *L* **31** # 3818
Hajduczenia, Marek Bright House Networks

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

Unknown variables "FC", "FR" - are these intended to be "F>>C<<" and "F>>R<<", where >><< designated subscript?

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.6** *P* **149** *L* **14** # 3819

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

The value of Bp and Bq are selected based on Table 101-2, but it is not clear how the selection is done

SuggestedRemedy

Clarify how proper values (long / medium / short) are selected for Bp and Bq, if they are at all needed. FI cannot find Bp and Bq used in state diagrams at all - why are they defined then? Remove them :)

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Both BP (appears 19x) and BQ (appears 54x) are used extensively in the draft and cannot be removed. Selection in the US is clearly described in 101.3.2.5.4 (see pg 148 line 34).

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **101** *SC* **101.3.2.5.6** *P* **149** *L* **25** # 3820

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *transferToPMA*

burstEnd and burstStart are defined as variables and even set to some values (TRUE / FALSE) in Figure 101–11, but it is not shown what specific values are encoded and in what way when burst start marker and burst end marker are placed on wire

SuggestedRemedy

Text on page 153, lines 20-29 seems to implify these are NOT markers at all, but only signals to drive PMA to shut transmitter ON / OFF, and nothing more - the names are then confusing.

Rather than generate additional variables, state diagram in Figure 101–11 shoudl generate explicitly PMD_SIGNAL.request(tx_enable <= FALSE) when end of burst is detected and PMD_SIGNAL.request(tx_enable <= TRUE) when start of burst is detected. This avoid the need for additional variables in already complex state diagrams.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment 3831

Cl **101** *SC* **101.3.2.5.8** *P* **157** *L* **7** # 3821

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *transferToPMA*

Really odd instructions in INIT block in Figure 101–11

input ARRAY_IN
Input burstSize
Input lastcodeword

SuggestedRemedy

Either initialize these variables to some values, or do something else, but it is not clear what "Input/input" is intended to mean here

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Cmt 3831

Cl **101** *SC* **101.3.2.5.6** *P* **149** *L* **29** # 3822

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Soc*

Variable burstSize is defined in 101.3.2.5.6, and used as parameter in transferToPMA function call, but the way it is used in Figure 101–11, it is never set to any specific value, but then used in comparing conditions for exit from PMA_CLIENT state.

SuggestedRemedy

Update Figure 101–11 to set burstSize to some value and update it as the burst size increments. Otherwise, the operation is broken sicne burst size is never calculated ! it seems that definition of burstSize could be changed to "This variable represents the size of ARRAY_IN array." or alternatively, remove it altogether and use sizeof(ARRAY_IN) instead to figure out how many bits are located in ARRAY_IN

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In Fig 101-9 in CALCULATE_CRC40_AND_PARITY
before transferToPMA(tx_coded_out, (blockCount*65) + 40 + FC, TRUE)
Add line "burstSize = (blockCount*65) + 40 + FC"

Pg 151 lin 49/50 change
"loc += parityLength;
transferToPMA(tx_coded_out, loc, lastcodeword);"
to
"burstSize += parityLength;
transferToPMA(tx_coded_out, burstSize, lastcodeword);"

Cl **101** *SC* **101.3.2.5.8** *P* **155** *L* **32** # 3823

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Fig 101-9, Fig 101-10*

CLT output process seems to disable the transmitter at the end of each FEC codeword, by setting the last parameter to TRUE:

transferToPMA(tx_coded_out, (blockCount*65) + 40 + FC, TRUE)

but there is no location where transmitter is enabled explicitly, and definition of transferToPMA does not clarify when Tx is enabled for CLT.

SuggestedRemedy

Either add explicit Tx enable in one of states, OR extend the definition of transferToPMA function to enable explicit Tx enable on the first transfered bit, OR do not disable Tx in CLT at all (not really needed, is it?)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add "The setting of lastcodeword has no effect in the CLT." to the Def of transferToPMA definition on pg 153 ln 19.

In Fig 101-10 add
"PMA_SIGNAL.request(ON)" to START_BURST
"PMA_SIGNAL.request(OFF)" to END_BURST

See remein_3bn_21_0915

Cl **101** *SC* **101.3.2.5.8** *P* **156** *L* **18** # 3824

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Fig 101-10, Soc*

Transition between START_BURST and AGGREGATE_BQ_BLOCK is never taken. Note that in state NO_BURST_IN_PROGRESS, firstcodeword is set to TRUE, and then not modified in START_BURST, so it is always TRUE the moment state START_BURST is left.

SuggestedRemedy

Either a) remove transition on "firstcodeword = FALSE" between START_BURST and AGGREGATE_BQ_BLOCK, or b) fix the state diagram so that this transition can be taken (not clear under what conditions it would need to be taken, really).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add statement in AGGREGATE_BURST_TIME_HEADER
"firstcodeword <= FALSE"

Cl **101** *SC* **101.3.2.5.8** *P* **156** *L* **22** # 3825

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Fig 101-10*

Assignment operator madness ... in state "AGGREGATE_BURST_TIME_HEADER", all standalone "=" should be interpreted as "equal to" logical operand and not assignment operator.

SuggestedRemedy

Change

dataPayload<loc+64:0> = Burst_Time_Header()
tx_coded_out<64:0> = dataPayload<loc+64:0>

to

dataPayload<loc+64:0> <= Burst_Time_Header()
tx_coded_out<64:0> <= dataPayload<loc+64:0>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per comment and convert to FramMaker native format.

See remein_3bn_21_0915

Cl **101** *SC* **101.3.2.5.8** *P* **156** *L* **38** # 3826

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Fig 101-10, Soc*

The operation of AGGREGATE_BQ_BLOCK state is not correct. Right now, the state machine will loop in AGGREGATE_BQ_BLOCK state until DelayBound is reached, but that does not guarantee aggregation of BQ blocks of data.

SuggestedRemedy

The ONU state diagram is broken from AGGREGATE_BQ_BLOCK state onwards.

Probably the name of AGGREGATE_BQ_BLOCK state is confusing, in that it does not really aggregate any blocks. Note that in each clock, we get one more 65-bit block, execute Check_dataPayload function which calculates CRC40 for selected codeword, and then go back for next 65-bit block.

The operation in here should be different, i.e., we aggregate data blocks until eithe of the conditions becomes true: we observe end of burst in data detector OR we aggregate enough data for logn codeword. In that case, CRC40, parity needs to be calculated and we go back to aggregation process (if data detector does not signal end of burst) or move to end of burst (when data detector signals end of burst).

note that burst end marker should be transmitter in END_BURST state and not in aggregation state - this would be a cleaner solution to what is currently done.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change name for state to:
"AGGREGATE_BLOCKS"
Note that Check_dataPayload accounts for other funcitons mentioned in Suggested Remedy.

Cl **101** *SC* **101.2.4.1** *P* **134** *L* **8** # 3827

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"The variables of 65.1.3.1 are inherited except the definition of logical_link_id is per 76.2.6.1.1." - given that 76.2.6.1.1 already references 65.1.3.1, replace this text with "See 76.2.6.1.1."

SuggestedRemedy

Similar change in 101.2.4.2 where both existing sentences are to be replaced with: "See 101.2.4.2." and 101.2.4.3 where both existing sentences are to be replaced with: "See 76.2.6.1.3."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Clearly we should avoid references to references (as the commenter has pointed out before).
Excerpt from 802.3bx D3.2
"76.2.6.1.1 Variables
The variables of 65.1.3.1 are inherited except as shown below.
Logical_link_id
Value: 15 bits
This variable shall be set to the broadcast value of 0x7FFE for the unregistered ONU MAC. …"

The suggestion that replacing the text of 101.2.4.2 with "See 101.2.4.2" seems incorrect.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **101** *SC* **101.3.1** *P* **134** *L* **25** # 3828

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

"The EPoC PCS is specified to support the operation of up to 10 Gb/s in the downstream direction and up to 10 Gb/s in the upstream direction, where the upstream and downstream data rates are configured independently" - this statement does not correspond to max upstream data rate of 1.6 Gb/s listed in changes to Clause 56 and 67, part of this amendment.

SuggestedRemedy

Change "up to 10 Gb/s in the upstream direction" to "up to 1.6 Gb/s in the upstream direction"

Simialr change needed on page 134, line 46, where upstream data rate is again listed as "up to 10 Gb/s"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.7** *P* **151** *L* **28** # 3829

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Description of Calculate_CRC40_and_3Parity(paritySize) using pseudocode contains a few issues, as listed below:
- additional description in lines 28 and 29 is a repetition of text in lines 23-25 and it is not needed (remove)
- definition of global variables is unnecessary (lines 33-34) - these have meaning in Matlab and but not within this draft - remove
- given that it is pseudocode, ";" at the end of each line is not needed (that is Java / Matlab / C / C++ specific)
- "=" is used as assignment operator AND as comparison operator (equals to)
- "return()" statement is meaningless - all operations are done on variables and other functions are called - there is nothing to "return"
- "block_count" is not used in the function in any way - it should be reset to 0 explicitly in state diagram
- keyword "function" is not needed - this is not Matlab script

SuggestedRemedy

Use the following definition of this function:

```
Calculate_CRC40_and_3Parity( paritySize )
{
if (paritySize == LONG) parityLength = 1800
else if (paritySize == MEDIUM) parityLength = 900
else parityLength = 280
dataPayload<loc+39:loc> = calculateCrc(dataPayload<loc-1:0>)
tx_coded_out<loc+39:loc> = dataPayload<loc+39:loc>
loc += 40
dataParity<parityLength-1:0> = calculateParity(dataPayload<loc-1:0>, loc, paritySize)
tx_coded_out<loc+parityLength-1:loc> = dataParity<parityLength-1:0>
loc += parityLength
transferToPMA(tx_coded_out, loc, lastcodeword)
firstcodeword = FALSE
loc = 0
resetArray(dataPayload)
resetArray(dataParity)
}
```

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
- remove additional description in lines 28 and 29
- remove return statement
- remove block_count

Given that it is pseudocode and to minimize changes the following are rejected:
- remove definition of global variables - yes they are unnecessary but they do no harm either.
- remove ';' it is pseudocode and any convenient line terminator is OK
- no change to "=" it is pseudocode and in some languages this is acceptable
- remove keyword "function" it is pseudocode

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **101** *SC* **101.3.2.5.7** *P* **152** *L* **19** # 3830

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Description of Check_dataPayload using pseudocode contains a few issues, as listed below:
- additional description in lines 24 is a repetition of text in lines 23-25 and it is not needed (remove)
- definition of global variables is unnecessary (lines 27-28) - these have meaning in Matlab and but not within this draft - remove
- given that it is pseudocode, ";" at the end of each line is not needed (that is Java / Matlab / C / C++ specific)
- "=" is used as assignment operator AND as comparison operator (equals to)
- "return()" statement is meaningless - all operations are done on variables and other functions are called - there is nothing to "return"
- "block_count" is not used in the function in any way - it should be reset to 0 explicitly in state diagram
- keyword "function" is not needed - this is not Matlab script

SuggestedRemedy

Use the function description per 802.3bn_0915_hajduczenia_1.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove "// Check_dataPayload() implements the Upstream FEC encoding□
Function Check_dataPayload(firstcodeword, lastcodeword)"
See Cmt# 3829 for itemized rejection list.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **19** # 3831

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *transferToPMA*

function transferToPMA needs more detailed definition - current description is very hard to process,e specially that it calls some "Transfer to PMA process" that is not formally defined anywhere. I would assume that all it does is play out content of ARRAY_IN across PMA service interface (in other words, pick bit zero from ARRAY_IN, push it across PMA_UNIDATA.request(), remove head in ARRAY_IN, and repeat until there is data; when lastcodeword is TRUE, send PMD_SIGNAL.request(tx_enable <= FALSE)

SuggestedRemedy

Example of a more formal definition included in 802.3bn_0915_hajduczenia_2.pdf - this would nicely replace Figure 101–11 state diagram, which is broken today

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See laubach_3bn_11_0915.pdf

Cl **101** *SC* **101.3.2.5.8** *P* **154** *L* **17** # 3832

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Wrong value assigned to IdleBlockCount variable. It is defined as 32 bit unsigned int and it is assigned the value of -1 (effectively, 0xFFFFFFF)

SuggestedRemedy

Either change the definition to signed integer (seems to hurt nothing, since the number is never expected to reach very high values anyway) or the state diagram will need to be redesigned to avoid the use of "-1" assignent - otherwise, we rely on rollover behavior which is implementation specific.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Redefine (pg 50 ln 20) as signed integer

The commenter is encouraged to enter a maintance request to fix the same issue seen in Section 5 of P802.3bx Drafte 3.2 SCl 76.3.2.5.6 pg 624 line 37 (and many other varaible definitions in the clause).

Cl **101** *SC* **101.3.2.5.8** *P* **154** *L* **14** # 3833

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

What is "BIT_CTRL" and "BIT"DATA" ????
Transition conditions in Figure 76–16 are "SUDR * tx_coded<1:0> = SH_CTRL" and "SUDR * tx_coded<1:0> = SH_DATA" which is what should be used in here as well.

SuggestedRemedy

Copy transition conditions from Figure 76–16 + any associated variables needed.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
SUDR alias for SCRAMBLER_UNITDATA.request(tx_coded<65:0>) and has no analog in EPoC

SH_CTRL & SH_DATA are defined by ref pg 147 ln 3.
tx_coded is defined pg 151 ln 53

Change in Fig 101-8
BIT_CTRL to SH_CTRL
BIT_DATA to SH_DATA

See

Cl **101** *SC* **101.3.2.5.8** *P* **150** *L* **45** # 3834

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D**

Definition of sizeFifo does not match the use in Figure 101–8 - it is used as size of FIFO_FEC_TX

SuggestedRemedy

Change definition of sizeFifo to read: "This variable represents the number of 65-bit blocks stored in the FIFO_FEC_TX."
Note that breaks also removeFifoHead definition, which is really tied to FIFO_FEC_TX array only and not some generic ARRAY_IN
To make removeFifoHead more generic, it should be redefined as

removeFifoHead(ARRAY_IN, sizeFifo)

and any calls done like this: removeFifoHead(Array, sizeof(Array))

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In Figure 101-14 change "sizeFifo" to "sizeFifoRX" (3x)

Pg 154 ln 22 Figure 101-8
remove "FIFO_FEC_TX" from "RemoveFifoHead(FIFO_FEC_TX)" in RECEIVE_FIFO_HEAD as in Cl 76 Figure 76-16.
Also change "{" to "[" at line 26

Pg 162 change defininiton fo "sizeFifo" to
"sizeFifoRX
TYPE: 16-bit unsigned integer
This variable represents the number of 65-bit blocks stored in the FIFO."

Cl **101** *SC* **101.3.1** *P* **134** *L* **33** # 3835

Hajduczenia, Marek Bright House Networks

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

"The Idle control character insertion and deletion mechanism accommodates" - these are independent mechanism>>s<<

SuggestedRemedy

Change to "The Idle control character insertion and deletion mechanisms accommodate"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.1** *P* **134** *L* **39** # 3836

Hajduczenia, Marek Bright House Networks

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

This does not read right: "Figure 100–4 and Figure 100–5 illustrate the functional block diagram of the receive path in the CLT and CNU, respectively in the EPoC PCS".

SuggestedRemedy

Change to "Figure 100–4 and Figure 100–5 illustrate the functional block diagram of the receive path in the CLT PCS and CNU PCS, respectively".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.2** *P* **136** *L* **42** # 3837

Hajduczenia, Marek Bright House Networks

Comment Type **E** *Comment Status* **D** *EZ, remein_22*

Inconsistent text format in equation: "PHY_DSize" is partially italicized - should be itialized as a whole

SuggestedRemedy

Same issue in Equation 101-2 and Equation 101-1 for PCS_Rate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This change is included in remein_3bn_22_0915

Cl **00** *SC* **101.3.2.1.5** *P* **138** *L* **19** # 3838

Hajduczenia, Marek Bright House Networks

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

Please align symbols that are used across SDs: note the "-" sign format in Figure 101–2 in DELETE_IDLES state and "+" symbols in SEND_VECTOR state versus Figure 101–3, DELETE_IDLES state and SEND_IDLE state - they are visually different

SuggestedRemedy

This applies to all SDs in this draft that use "-" and "+" symbols

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Cl 00 as this applies to more than Cl 101

Replace all "- -" (dash space dash <OR> minus minus) with "- -" (minus space minus) in all state diagrams (using minus minus with no space results in a single wide line)

Replace all "+ +" with "++" in all state diagrams

Cl **101** *SC* **101.3.2.1.5** *P* **139** *L* **37** # 3839
Hajduczenia, Marek Bright House Networks

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

"ELSE" or "Else" or "else" - three forms are used in this draft - pick one and use consistently ...

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
use "else" in all cases.

Cl **00** *SC* **101.3.2.5.1** *P* **143** *L* **51** # 3840
Hajduczenia, Marek Bright House Networks

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

Line break control for " 64B/66B Encoder "

SuggestedRemedy

Please make sure that Frame does not break across "/" character

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Cl 00 as impact to all clauses

Remove "/" from characters in the Allow Line Breaks After by following the procedure below
Choose Format > Document > Text Options
remove "/ " from list.

Cl **101** *SC* **101.3.2.5.8** *P* **156** *L* **22** # 3841
Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Fig 101-10*

It is not clear what the purpose of assigning Burst_Time_Header() to dataPayload<loc+64:0> and then assigning dataPayload<loc+64:0> to tx_coded_out<64:0> is. I suggest assigning Burst_Time_Header() to tx_coded_out<64:0> directly and saving one operation, which is meaningless anyway :)

SuggestedRemedy

Change

dataPayload<loc+64:0> = Burst_Time_Header()
tx_coded_out<64:0> = dataPayload<loc+64:0>

to

tx_coded_out<64:0> <= Burst_Time_Header()

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per comment and:
convert to native FramMaker format,
Add UTC exit condition to AAGGREGATE_BURST_TIME_HEADER and END_BURST states

See remein_3bn_21_0915

Cl **101** *SC* **101.2.1** *P* **133** *L* **15** # 3842
Hajduczenia, Marek Bright House Networks

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

"with exceptions noted herein" - i.e., where?

SuggestedRemedy

change to "with exceptions noted in XXX" and add reference where said exceptions are listed (likely candidate: 101.2.3)

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Actually the herein would be 101.2 but then that would form a circular reference. Imho the meaning is clear, we can change to something else if the TF agrees with you.

Cl **101** *SC* **101.3.1** *P* **134** *L* **26** # 3843
Hajduczenia, Marek Bright House Networks

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

"point-to-multipoint coaxial medium architecture" - I believe this is the definition of CCDN???

SuggestedRemedy

replace "over the point-to-multipoint coaxial medium architecture" with "over CCDN"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
CCDN (coax cable distribution network) is not defined to be necessarily P2MP.
Change
"coaxial medium architecture"
to
"coax cable distribution network"

Cl **101** *SC* **101.3.2.5.7** *P* **151** *L* **19** # 3844
Hajduczenia, Marek Bright House Networks

Comment Type **T** *Comment Status* **D** *Soc*

Unclear description of the value that BurstTimeHeader function returns: "binary 1 followed by the 32-bit PHY Link timestamp value at the time of the call to this function followed by 0x D8 58 E4 AB." -

SuggestedRemedy

Given the odd format, it might be simpler to represent it graphically, showing furst bit field with the value of "1", followed by 4 octets (PHY Link timestamp), followed by 4 octets with the value of 0x D8 58 E4 AB. Alternatively, the following text description could be used:
"The BurstTimeHeader() function returns a 65-bit vector, with the following values:
bit <0> = binary 1
bits <1:32> = the current PHY Link timestamp
bits <33:64> = a fixed value of 0xD858E4AB.
This 65-bit vector is transmitted as the first 65-bit block of the upstream burst."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per alt suggestion.

Cl **101** *SC* **101.3.2.5.7** *P* **152** *L* **8** # 3845
Hajduczenia, Marek Bright House Networks

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

Reference to CRC40 calculation should be added

SuggestedRemedy

Insert "(see 101.3.2.3)" after "CRC40 value"
Make the link live

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.7** *P* **152** *L* **11** # 3846
Hajduczenia, Marek Bright House Networks

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

more different ways of referencing FEC code: "LDPC parity", "the code" ...

SuggestedRemedy

Revise definition of calculateParity function as follows

This function calculates the FEC parity (for the FEC code per Table 101-2, selected based on the paritySize parameter) for data included in ARRAY_IN up to the specified Length (expressed in units of bits). All bits <0:Length-1> are data bits and bits <Length:FP-1> are padding bits. All padding bits are discarded after the FEC parity is calculated. The paritySize parameter defines the FEC code used for FEC parity calculation as follows:
* if paritySize = LONG, FEC code with the FEC codeword size of 16200 bits is used,
* if paritySize = MEDIUM, FEC code with the FEC codeword size of 5940 bits is used,
* if paritySize = SHORT, FEC code with the FEC codeword size of 1120 bits is used.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
There is no technical issue with the text currently in the standard. It is clear as written. Changing the Draft to accommodate individual writing style is not productive.

Cl **101** *SC* **101.3.2.5.8** *P* **154** *L* **27** # 3847
Hajduczenia, Marek Bright House Networks

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

Incorrect opening bracket: FIFO_FEC_TX{sizeFifo]

SuggestedRemedy

Change to FIFO_FEC_TX[sizeFifo]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.8** *P* **154** *L* **21** # 3848

Hajduczenia, Marek Bright House Networks

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

Seemingly incorrect state name: RECEIVE_FIFO_HEAD

SuggestedRemedy

Change to REMOVE_FIFO_HEAD - that is what is happening here, we're dropping FIFO head elements until the size reaches the value of 2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.5** *P* **140** *L* **1** # 3849

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *remein_22*

State diagrams shown in Figure 101-3 and Figure 101-4 operate in parallel, which means that each passing (I+E) character is counted by both state diagrams. Since both state diagrams do not synchronize variables in any way, this is what happens (just numeric example):
- after observing some non-(I+E) characters, both SDs update their counters, waiting for (I+E) characters to be deleted
- if in both state diagrams, UPDATE_COUNTERS states are reached simultanously, on next (I+E) character, both SDs will identify it for deletion and enter DELETE_IDLES state, decrementing countDeleteF/countDeleteP variable
- however, only one (I+E) character will be effectively deleted, compensating for either FEC_OSize or PHY_OSize, but not for both

SuggestedRemedy

Update CNU state diagram, by collapsing Figure 101–3 and Figure 101–4 together into a single state diagram, including residual value calculation, following CLT mechanism. The current mechanism does not operate correctly.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed:
FEC_OSize -> DS_FEC_OSize
PHY_DSize -> DS_PHY_DSize
PHY_OSize -> DS_PHY_OSize
countVectorT -> countVector
Added constants: US_FEC_Osize and US_PHY_Dsize sized for minimum FEC size.
Moved: countDelete from 101.3.2.1.2 Variables to 101.3.2.1.3 Counters
Deleted:countDeleteF, countDeleteP, countIdleF, countIdleP, countVectorF, countVectorP
Modified Fig 101-2 accordingly

Combined Fig 101-3 & 101-4 to operate assuming the minimum FEC size. This ensures that the US burst is less than or equal to the time set per MPCP.

Deleted Fig 101-4

This change is included in remein_3bn_22_0915

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **21** # 3850

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Burst Structure, Soc*

"In the CLT only, a 65-bit burst time header is placed (accumulated) as the first 65-bit block at the start of a burst. "

SuggestedRemedy

CLT does not send data in bursts, so the statement is not correct. It is not clear what the original intent of the text is, what the "burst time header" is, and where it is located. A referece to figure demonstrating said elements is needed.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Cmt# 3851

Cl **101** *SC* **101.3.2.5.2** *P* **147** *L* **50** # 3851

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Burst Structure, Soc*

"starting burst marker", "burst time header", "burst marker" - which is it? Are these the same?

SuggestedRemedy

Please aling your terminology - "burst start marker" would be preferred to align concepts with 10G-EPON. There are multiple instances of these terms in Clause 101, including Figure 101-7 (for example).
For symmetry, "ending burst marker" should be "burst end marker"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change
"ending burst" to "end burst" (3x)
"starting burst" to "start burst" (1x)
"burst time header" to "Burst Time Header" (proper noun)
Pg 145 ln 20 change
"In the CLT only, a 65-bit burst time header is placed (accumulated) as the first 65-bit block at the start of a burst."
to
"In the CNU only, a 65-bit Burst Time Header is placed as the first 65-bit block of the first FEC codeword at the start of a burst."

In Figure 101-7 move the arrow for the Burst Time Header to be the 1st 65 bit block in the codeword.

Note this is followed by 2 Idle blocks that are technically "part of" the data.

Cl **101** *SC* **101.3.2.5.2** *P* **147** *L* **52** # 3852

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Burst Structure, Soc*

"The burst marker is not part of the first FEC codeword." - but it is not shown in Figure 101-7 !!! Same for "The ending burst marker is not part of the last FEC codeword."

SuggestedRemedy

Show "burst marker" in Figure 101-7, as well as "ending burst marker" - their location in data stream is right now undefined.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add "but added by the PMA" to the sentences so they read:
"The start burst marker is not part of the first FEC codeword but added by the PMA."
"The stop burst marker is not part of the last FEC codeword but added by the PMA."

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **39** # 3853

Hajduczenia, Marek Bright House Networks

Comment Type **TR** *Comment Status* **D** *Burst Structure, soc*

"All codeword encoding follows the same procedures as the downstream with the following differences:" - it is not clear where data burst structure is available in the downstream - there are no burst markers, no burst structure, data is encoded at a single Tx and received by multiple Rx.

SuggestedRemedy

At this time, it is not clear where downstream burst structure is defined, and then what needs to be defined here, apart from the fact that data is always encoded into whole long FEC codewords. Unless it is clarified, I suggest to have text in lines 39-47 removed - it is confusing as it is right now.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **2.7a.6** *P* **62** *L* **27** # 3854

McDermott, Thomas Fujitsu

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

The word register is mis-spelled

SuggestedRemedy

Change reggister to register

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **2.7.3** *P* **90** *L* **51** # 3855

McDermott, Thomas Fujitsu

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

Typographical error, specifies GHz, should specify MHz.

SuggestedRemedy

Change 3276.75 GHz to 3276.75 MHz.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **2.8.1** *P* **91** *L* **37** # 3856

McDermott, Thomas Fujitsu

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

Text is confusing, does not specify which part of the spectrum of the outlying carrier. Revise the text as suggested.

SuggestedRemedy

The encompassed spectrum is the difference between the center frequency of the highest frequency active subcarrier of the highest frequency OFDM channel and the center frequency of the lowest frequency active subcarrier of the lowest frequency OFDM channel, plus the subcarrier spacing (all expressed in MHz). The encompassed spectrum of a single OFDM channel is the difference between the center frequency of the highest frequency active subcarrier and the center frequency of the lowest frequency active subcarrier in the OFDM channel, plus the subcarrier spacing.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Pg 91, Line 37 begins with the definition of modulated spectrum not encompassed spectrum.
Applying alternate suggested change for Paragraph on Line 17:
"The encompassed spectrum is the difference between a) the center frequency of the highest frequency active subcarrier of the highest frequency OFDM channel and b) the center frequency of the lowest frequency active subcarrier of the lowest frequency OFDM channel, plus the subcarrier spacing (all expressed in MHz). The encompassed spectrum of a single OFDM channel is the difference between the center frequency of the highest frequency active subcarrier and the center frequency of the lowest frequency active subcarrier in the OFDM channel, plus the subcarrier spacing."

Cl **100** *SC* **2.9.2** *P* **99** *L* **44** # 3857

McDermott, Thomas Fujitsu

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

The paragraph defines the channel power, but does not discuss or relate this to any fidelity requirement. Either the paragraph is mis-titled, or text needs to be added to discuss the relationship between the power and some fidelity requirement.

SuggestedRemedy

Not clear the intent of the paragraph. Either retitle the paragraph, or add text relating the power to a fidelity requirement.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
CNU Fidelity requirements are later in "100.2.9.5 OFDMA fidelity requirements" The paragraph speaks to OFDMA channel power.

Suggested remedy: move paragraph as the first paragraph of the next subclause "100.2.9.3 Transmit power Requirements". Delete subclause heading "100.2.9.2 Fidelity requirements" as it is duplicative with 100.2.9.5.

Cl **100** *SC* **2.12.3** *P* **115** *L* **8** # 3858

McDermott, Thomas Fujitsu

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

The term 'complex scalar' is not correct. A scalar is a real number, whilst a 'complex number' is a vector. Each term in the preceding equation is in fact a single complex number for each subcarrier. The |e|^2 operation converts the error vector (a complex number) to a scalar, which is then time-averaged.

SuggestedRemedy

Change 'complex scalar' to 'complex number'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* *L* # 3859

Anslow, Pete Ciena

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

IEEE uses an en-dash for a minus sign. The draft contains many instances of a hyphen being used instead.

SuggestedRemedy

Where a hyphen is used as a minus sign, replace with an en-dash.
The editor has been sent a marked up copy of the draft showing 83 instances that should be replaced.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **99** *SC* *P* **25** *L* **16** # 3860

Anslow, Pete Ciena

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

The spelling of "Implementors" has been changed to "Implementers" in the latest IEEE style guide (and the latest 802.3 template)

SuggestedRemedy

Change ""Implementors" to "Implementers""

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **55** *L* **45** # 3861

Anslow, Pete Ciena

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

There are still many instances of text that should be cross-references.
Since they are text, they should be checked for accuracy before being made cross-references.

SuggestedRemedy

Change the following text to cross-references:
Page 55, line 45 "102.2.6.2"
Page 59, line 14 "102.2.3"
Page 109, line 22 "100.2.9.1"
Page 122, line 1 "Clause 100"
Page 148, line 9 "Table 101–4"
Page 153, line 27 "Figure 100-3"
Page 153, line 27 "100.2.9.7"
Page 173, line 12 "Table 100-2"
Page 173, line 42 "101.4.2.5.1"
Page 180, line 36 "101.4.3.6.4"
Page 180, line 37 "101.4.3.6.x" (with correct reference)
Page 180, line 40 "101.4.2.1"
Page 186, line 24 "Figure 4" (with correct reference)
Page 196, line 46 "Table 100-1"
Page 197, line 14 "Table 100-1"
Page 206, line 15 "Figure 101.x.x.x" (with correct reference)
Page 212, line 17 "101.x.x.x" (with correct reference)
Page 212, line 18 "101.4.3.8.1"
Page 231, line 47 "Figure 101-15"
Page 243, line 6 "Clause 45" (should not be forest green)
Page 243, line 13 "Cl 45" (Should be "Clause 45")
Page 284, line 49 "102.4.1.6"
Page 296, line 30 "Table 103-1"
Page 304, line 21 "Table 101-2"
Page 334, line 2 "Annex 31B"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
However Page 148, line 9 should be "Table 101–2"

Cl **56** *SC* **56.1.2.1** *P* **67** *L* **54** # 3862
Anslow, Pete Ciena

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

"as shown in Figure 56-2, Figure 56-4, and Figure 56-4" should be "as shown in Figure 56-2, Figure 56-3, and Figure 56-4"

SuggestedRemedy

Change "Figure 56-4, and" to "Figure 56-3, and"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.2** *P* **136** *L* **21** # 3863
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **D** *EZ, remein_22*

In the definition for PCS_Rate, there is a space missing in "the64B/65B"

SuggestedRemedy

Add the space.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This change is included in remein_3bn_22_0915

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **32** # 3864
Anslow, Pete Ciena

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

spurious space after "(" at the end of the line causes the "(" to be on a different line from "14400"

SuggestedRemedy

Delete the space,

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Cmt# 3807

Cl **101** *SC* **101.4.2.9.3** *P* **186** *L* **8** # 3865
Anslow, Pete Ciena

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

This says "arranged in a 2-D store". However, the term "2D" is used in Clause 55 for two-dimensional without the hyphen.

SuggestedRemedy

Change all 11 instances of "2-D" in the draft to "2D"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Impacts Cl 101 & 102

Cl **101** *SC* **101.4.2.11** *P* **191** *L* **32** # 3866
Anslow, Pete Ciena

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

Numbers should be separated from their unit with a non-breaking space (Ctrl space) to avoid the number and the unit being on different lines

SuggestedRemedy

Replace the space with a non-breaking space (Ctrl space):
Page 191, line 32 "204.8 Msamples"
Page 197, line 13 "22 MHz"
Page 218, line 49 "2.78 dB"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.12** *P* **193** *L* **50** # 3867
Anslow, Pete Ciena

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

1.2.6 Accuracy and resolution of numerical quantities states:
Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance.
Consequently, the entries in Table 101–11 and 101.18 should not contain trailing zeros.

SuggestedRemedy

In Table 101–11 and Table 101.18, change:
"0.0000" to "0"
"0.6250" to "0.625"
"1.2500" to "1.25"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.2.3** *P* **198** *L* **11** # 3868
Anslow, Pete Ciena

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

Cross-referenced to other sub-clauses in IEEE standards are not preceded by "Section"

SuggestedRemedy

Change "as specified in Section 101.4.3.2.2" to "as specified in 101.4.3.2.2"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.7.1** *P* **212** *L* **15** # 3869
Anslow, Pete Ciena

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

"RB_Type" and "RB_Frame_start" are split across two lines, which is a bad thing to do with variable names.

SuggestedRemedy

Tell FrameMaker not to hyphenate these two variable names. (Click on the variable name and type Esc n s to do this)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.9.2** *P* **218** *L* **45** # 3870
Anslow, Pete Ciena

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

The 802.3 web page:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html
says that 802.3 will use "peak-to-peak" (in text)

SuggestedRemedy

Change "p-p" to "peak-to-peak" 4 times in 101.4.3.9.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.6.2** *P* **227** *L* **1** # 3871
Anslow, Pete Ciena

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

101.6.2 and 101.6.2.2 should be on the same page as the heading for 101.6

SuggestedRemedy

Click on the heading 101.6.2.2, Paragraph designer pod, Pagination tab, uncheck Keep With Next Pgf (box goes white), Apply.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **101.6.2.2** *P* **227** *L* **22** # 3872
Anslow, Pete Ciena

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

The PICS_year variable in Clauses 101, 102 and 103 is set to "2012", but it should be "201x"

SuggestedRemedy

Change the PICS_year variable in Clauses 101, 102 and 103 from "2012" to "201x"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Check all clauses

Cl **102** *SC* **102.5.2.2** *P* **287** *L* **34** # 3873
Anslow, Pete Ciena

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

"IEEE Std 802.3xx" should be "IEEE Std 802.3bn"

SuggestedRemedy

Change "IEEE Std 802.3xx" to "IEEE Std 802.3bn"
Page 8, line 4
Page 8, line 13
Page 8, line 14
Page 10, line 29
Page 287, line 34
Page 287, line 40
Page 345, line 26
Page 345, line 32

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.6.4.2** *P* **228** *L* **29** # 3874
Anslow, Pete Ciena

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

"Transmssion" should be "Transmission"

SuggestedRemedy

Change "Transmssion" to "Transmission"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.1.4.1.1** *P* **239** *L* **39** # 3875
Anslow, Pete Ciena

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

Tables 102-1 and 102-2 have blank cells filled with hyphens, but the IEEE style guide says that empty cells should contain em-dash

SuggestedRemedy

Replace the hyphens in Tables 102-1 and 102-2 with em-dash

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Ctrl-q Shft-q

Cl **102** *SC* **102.1.8** *P* **243** *L* **12** # 3876
Anslow, Pete Ciena

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

The IEEE Style manual contains:
"Ranges should repeat the unit (e.g., 115 V to 125 V). Dashes should never be used because they can be misconstrued as subtraction signs."
Hence, "(i.e., 0-99)" should be "(i.e., 0 to 99)"

Same issue in the first row of Table 102-6

SuggestedRemedy

Change "(i.e., 0-99)" to "(i.e., 0 to 99)"
In the first row of Table 102-6, change "0x00- 0x08" to "0x00 to 0x08"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.2.3.2** *P* **253** *L* **25** # 3877
Anslow, Pete Ciena

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

A hyphen is needed in "4-bit number" because both "4" and "bit" refer to "number". However, this is not the case for the right hand column of Table 102-9, where "xx-bits" should be "xx bits".

Same issue on page 304, line 20

SuggestedRemedy

Replace the hyphens with a space in the right hand column of Table 102-9 (3 instances) and also on page 304, line 20 (64 bits).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.4.1.7** *P* **273** *L* **1** # 3878
Anslow, Pete Ciena

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

The title for 102.4.1.7 has "102.4.1.7" twice

SuggestedRemedy

Remove the second "102.4.1.7"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.4** *P* **345** *L* **3** # 3879
Anslow, Pete Ciena

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

The Clause 103 PICS is missing an introduction subclause

SuggestedRemedy

Add an introduction as per the 802.3 template:
"103.4.1 Introduction
The supplier of a protocol implementation that is claimed to conform to Clause 103, Multipoint MAC Control for EPoC, shall complete the following protocol implementation conformance statement (PICS) proforma.
A detailed description of the symbols used in the PICS proforma, along with instructions for completing the PICS proforma, can be found in Clause 21."
with "Clause 21" in forest green

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.4.1.2** *P* **345** *L* **26** # 3880
Anslow, Pete Ciena

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

"Clause 103, clause title" should be "Clause 103, Multipoint MAC Control for EPoC"

SuggestedRemedy

Change "Clause 103, clause title" to "Clause 103, Multipoint MAC Control for EPoC"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100A** *SC* **100A.2** *P* **354** *L* **19** # 3881
Anslow, Pete Ciena

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

An error rate would be errors per unit time (e.g., errors per second). Errors are usually characterised as the number of errors divided by the number of bits, so "Error rate simulation..." should be "Error ratio simulation..."

SuggestedRemedy

Change "Error rate simulation..." to "Error ratio simulation..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1** *P* **34** *L* **24** # 3882
Anslow, Pete Ciena

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

In the second to last row of Table 45-3 "1.1952 through 1.1957" should be "1.1953 through 1.1957"
In the last row of Table 45-3 "1.1952 through 1.32767" should be "1.1958 through 1.32767"

SuggestedRemedy

In the second to last row of Table 45-3, change "1.1952" to "1.1953"
In the last row of Table 45-3, change "1.1952" to "1.1958"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **100.2.12.2.1** *P* **113** *L* **48** # 3883
Anslow, Pete Ciena

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

In the title of 100.2.12.2.1, "CNU error rate performance" should be "CNU error ratio performance" (an error rate would be errors per unit time).
However, since the specification is given in terms of a frame loss ratio, it would be better to change the title to: "CNU error performance in AWGN channel"

SuggestedRemedy

Change the title to: "CNU error performance in AWGN channel"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Also look for if we have any "error rate" or "error ratio" and change to "error performance" in this specification.

Change from 100 to 00 by Editor.

Cl **100** *SC* **100.2.12.2** *P* **113** *L* **46** # 3884
Anslow, Pete Ciena

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

This says "at which the CNU is required to meet this error ratio.", but the specification is given in terms of a frame loss ratio.

SuggestedRemedy

Change "to meet this error ratio" to "to meet this frame loss ratio"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Adapt wording to that that gets accepted for #3930.

Cl **100** *SC* **100.2.12.2.1** *P* **113** *L* **50** # 3885
Anslow, Pete Ciena

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

In "less than or equal that shown in when operating", there is a missing pointer to the location of the FLR specification

SuggestedRemedy

Change to "less than or equal that shown in 100.2.12.2 when operating"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add the cross reference to the text changes for comment 3930.

Cl **101** *SC* **101.5** *P* **225** *L* **29** # 3886
Anslow, Pete Ciena

Comment Type **T** *Comment Status* **D** *TimeSync*

Given that 101.5.1 defines three variables and these are also reflected in changes to Clause 45, this editor's note should be replaced by suitable text

SuggestedRemedy

Replace the editor's note with suitable text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Cmt# 4181

Cl **100** *SC* **100.6.3.3** *P* **126** *L* **6** # 3887
Lusted, Kent Intel

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

text in ES2 value/comment box is 2 different sizes

SuggestedRemedy

fix as appropriate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Will check and fix as needed.

Cl **100** *SC* **100.6.3.3** *P* **126** *L* **6** # 3888
Lusted, Kent Intel

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

text in ES4 value/comment box is different size from rest

SuggestedRemedy

fix as appropriate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Will check and fix as needed.

Cl **100** *SC* **100.6.3.3** *P* **125** *L* **36** # 3889
Lusted, Kent Intel

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

text in TST3 value/comment box is different size from rest

SuggestedRemedy

fix as appropriate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Will check and fix as needed.

Cl **100** *SC* **100.6.3.3** *P* **125** *L* **40** # 3890
Lusted, Kent Intel

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

text in TST4 value/comment box is different size from rest

SuggestedRemedy

fix as appropriate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Will check and fix as needed.

Cl **101** *SC* **101.1.3** *P* **132** *L* **15** # 3891
Lusted, Kent Intel

Comment Type **E** *Comment Status* **D** *Layer Dia*

The PCS, FEC and PMA blocks in the figure 101-1 show cross-hatching behind the text.

SuggestedRemedy

please consider fixing.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The cross-hatching is intentional, it highlights the layers within the diagram that the clause applies to (in this case Cl 101). The same is true for Fig 100-1 and 103-2

Cl **101** *SC* **101.4.4.1** *P* **221** *L* **28** # 3892
Lusted, Kent Intel

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

The text for "Gray1f(0) = 1" and "Gray1(1) = -1" is a different font size.

Same for the Graym text in #2.

SuggestedRemedy

consider using the same font size

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The equations "Gray1(0) = 1", "Gray1(1) = –1", and "Graym(…)" have been entered using the Med equation editor in FramMaker and are consistent with the 802.3 template.

Cl **102** *SC* **102.5.4.3** *P* **289** *L* **25** # 3893
Lusted, Kent Intel

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

Typo in value/comment box for "withing"

SuggestedRemedy

change to "within"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **26** *L* **11** # 3894
Lusted, Kent Intel

Comment Type **ER** *Comment Status* **D**

The PMD type 10GPASS-XR is not listed in the definitions of the standard.

SuggestedRemedy

Add definition for 10GPASS-XR

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add:
"1.4.49a 10GPASS-XR: A collection of IEEE 802.3 Physical Layer specifications for up to 10 Gb/s downstream and up to 1.6 Gb/s upstream (EPoC) point-to-multipoint link over a coax cable distribution network. (See IEEE Std 802.3, Table 56–1, Clause 100, Clause 101, Clause 102, and Clause 103.)"

Ref:
1.4.42 10/1GBASE-PRX: A collection of IEEE 802.3 Physical Layer specifications for a 10 Gb/s downstream, 1 Gb/s upstream (10/1G-EPON) point-to-multipoint link over one single-mode optical fiber. (See IEEE Std 802.3, Table 56–1, Clause 75, Clause 76, and Clause 77.)

Cl **56** *SC* **Table 56-3** *P* **72** *L* **40** # 3895
Lusted, Kent Intel

Comment Type **ER** *Comment Status* **D** *EZ*

The entry for 10GPASS-XR is not consistent with the other entries in the table, which have a -U or a -D appendix on the nomenclature.

Listing both -U and -D would also then match the terms used in Table 56-11.

SuggestedRemedy

list 10GBASE-XR as 2 entries: one for the 10GPASS-XR-U and one for 10GPASS-XR-D.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
As suggested, coordinate with the changes as per comment #4062.

Cl **45** *SC* **45.2.1.161.3** *P* **54** *L* **30** # 3896
Remein, Duane Huawei Technologies

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

typo: "bits indicates"

SuggestedRemedy

to: "bits indicate"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **26** *L* **20** # 3897
Remein, Duane Huawei Technologies

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

It appears to be common practice to include the mnemonic in parenthesis after the term so for example
1.4.144a coax cable distribution network: would be
1.4.144a coax cable distribution network (CCDN):

SuggestedRemedy

Add mnemonics to the following as shown
1.4.144a coax cable distribution network (CCDN):
1.4.145b coax line terminal (CLT):
1.4.146c coax network unit (CNU):
1.4.170a cyclic prefix (CP):

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.2.1.3** *P* **29** *L* **26** # 3898

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **D** *CL30*

in 30.3.2.1.2 we list:
"ATTRIBUTE
APPROPRIATE SYNTAX:"
While in 30.3.2.1.3, and 30.5.1.1.2 we don't.

We should be consistent.

SuggestedRemedy

Add
"ATTRIBUTE
APPROPRIATE SYNTAX:"
immediately following the Editing Instruction in 30.3.2.1.3, and 30.5.1.1.2

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This comment conflicts with #3843 which suggests deleting this same text to the other CL 30 clauses. The TF needs to pick one method.

Cl **45** *SC* **45.2.1** *P* **32** *L* **17** # 3899

Remein, Duane Huawei Technologies

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

We should be explicit about which table is being changed in the Editing Instruction

SuggestedRemedy

add " in Table 45-3 " so the instruction reads:
"Change the identified reserved row and insert a new row above it in Table 45-3 as follows (unchanged rows not shown):"

Editor to review all editing instructions in Cl 45 and make similar changes as needed.

Editor to ensure all editing instructions end with a colon.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See Cmt 3935

Cl **103** *SC* **103.3.2.1** *P* **315** *L* **19** # 3900

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *PAUSE*

"103.3.2.1 PAUSE operation
See 77.3.2.1."

Cl 77.3.2.1 refers to "timing constraints in Annex 31B supplement the constraints found at 77.3.2.4."
Annex 31B is appropriate for EPoC but not 77.3.2.4.

SuggestedRemedy

Add " and time constraints found at 103.3.2.4"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **89** *L* **14** # 3901

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *RateMatchFail*

DS_RateMatchFail and US_RateMatchFail determined but there is no way to report this.

SuggestedRemedy

Add formal definition of each variable in 100.2.6.3
DS_RateMatchFail
TYPE: Boolean
This variable is set to TRUE if the CNU calculation of DS_DataRate differs from the DS_DataRate calculation communicated from the CLT by more than 10 b/s otherwise the variable is set to FALSE.

US_RateMatchFail
TYPE: Boolean
This variable is set to TRUE if the CNU calculation of US_DataRate differs from the US_DataRate calculation communicated from the CLT by more than 10 b/s otherwise the variable is set to FALSE.

Add entries in Table 100-1 for DS_RateMatchFail & US_RateMatchFail as follows:
US rate mismatch | 10GPASS-XR control | US_RateMatchFail | 1.1900.12 | 0 | 12
DS rate mismatch | 10GPASS-XR control | DS_RateMatchFail | 1.1900.11 | 0 | 11

Add Status bit for these variables in Cl 45 Register 1900. In Table 45–98a add two new lines modifying the reserved line accordingly:
"1.1900.12 | US rate mismatch[b] | 0 = the upstream rate calculated at the CNU and the CLT is mismatched by greater than 10 b/s 1 = the upstream rate calculated at the CNU and the CLT matches within 10 b/s | RO
1.1900.11 | DS rate mismatch[b] | 0 = the downstream rate calculated at the CNU and the CLT is mismatched by greater than 10 b/s 1 = the downstream rate calculated at the CNU and the CLT matches within 10 b/s | RO

Add new 45.2.1.131.1 & 45.2.1.131.2 renumbering as required
45.2.1.131.1 US rate mismatch (1.1900.12)
Bit 1.1900.12 indicates that, when read as a 1, the upstream rate calculated at the CNU and the CLT is mismatched by greater than 10 b/s. This bit is a reflection of the US_RateMatchFail variable defined in 100.2.6.3.
45.2.1.131.2 DS rate mismatch (1.1900.11)
Bit 1.1900.12 indicates that, when read as a 1, the downstream rate calculated at the CNU and the CLT is mismatched by greater than 10 b/s. This bit is a reflection of the DS_RateMatchFail variable defined in 100.2.6.3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.7.1** *P* **90** *L* **26** # 3902

Remein, Duane Huawei Technologies

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

MR in PICS states "" however in 100.2.7.1 & 100.2.7.2 there individual requirements for each direction.

SuggestedRemedy

Add below 100.2.7
"Equipment conforming to this standard shall clearly mark supported downstream and upstream frequency ranges."

Remove the last sentence in para's 100.2.7.1 & 100.2.7.2 that both begin "Equipment conforming to this standard shall clearly mark supported ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.4** *P* **95** *L* **1** # 3903

Remein, Duane Huawei Technologies

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

"For an Neqport-channel per RF port CLT,"
Neqport is not format as per other instances ("eqport" is subscripted here)

And what is an "Neqport-channel per RF port CLT"?

SuggestedRemedy

Correct formatting and add clarification (which I would normally suggest but I've really no idea what is intended here).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change: "For an Neqport-channel per RF port CLT, the applicable maximum power per OFDM channel and spurious emissions requirements are defined using the value of N* per Equation (100-6)." to "The applicable maximum power per OFDM channel and spurious emissions requirements are defined for the CLT using the value of N* per Equation (100-6)." Also correct the any formatting issues.

Cl **100** *SC* **100.2.9.4** *P* **100** *L* **23** # 3904

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Upstream power reporting*

"P1.6t", or "P1.6r"?
Line 24 speaks to "target transmit normalized channel power" but the subsequent formula is for "reported power level"
I smell fish. I also don't know of any way the CNU has of reporting the P1.6r reported power as there is no Cl 45 register defined for it.

SuggestedRemedy

Change to "P1.6r"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
P1.6t matches what is in DOCSIS PHY 3.1.
Need to add Clause 45 support for CNU reporting power power for the channel as required for this section. This is an oversight.

Align variables creation with comment #3934.

(NOTE: The fish is could likely be salmon.)

Cl **100** *SC* **100.2.9.5.1** *P* **101** *L* **11** # 3905

Remein, Duane Huawei Technologies

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

Eq 100-11 does not define NS_Max as implied by the statement "Let NS_-
Max be the number of modulated subcarriers in an OFDMA symbol as per Equation (100-11):"

SuggestedRemedy

Change para to read:
"The parameter SpurFloor is related to the ratio of the number of subcarriers being modulated by a CNU in an OFDMA symbol to the maximum number of subcarriers available (3840) including guardbands and is calculated per Equation (100-11):
{*** Equation 101-11 as per draft ***}
Where:
NS_Max is the number of modulated subcarriers in an OFDMA symbol"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.5.1** *P* **102** *L* **13** # 3906

Remein, Duane Huawei Technologies

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

What does this sentence mean? "A 2 dB relief applies in the measurement bandwidth."? I believe it only applies when the conditions in the previous para are met as is clearly stated there (and therefore not needed again).

However at line 11
measurementBW is an undefined variable

SuggestedRemedy

Strike:
"A 2 dB relief applies in the measurement bandwidth."
Add:
"Where:
measurementBW is the measurement bandwidth."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Page 102, Line 8, change "Table 100-9" to "Table 100-7".
Page 102, Line 13, change "A 2 dB relief" to "The 2 dB relaxation (relief)". Change "This relief " to "This relaxation".
Page 102, Line 23, add as second sentence in paragraph: "The relaxation is added to the spurious emissions power limits calculated for the Measurement Bandwidths of Table 100-8 and Table 100-9 for Measurement Bandwidths comprising roughly 10% of the upstream spectrum when the granted spectrum is less than 10% of the 100% Grant Spectrum."

Cl **100** *SC* **100.2.9.5.2** *P* **103** *L* **22** # 3907

Remein, Duane Huawei Technologies

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

I believe Measurement Bandwidth in Eq 100-14 should be MeasurementBW as should have been defined in 100.2.9.5.1

SuggestedRemedy

Change Measurement Bandwidth to MeasurementBW

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This was remedied as per prior comment. Measurement Bandwidth is the values from the indicated columns from Table 100-8 and 100-9.

Cl **100** *SC* **100.25.9.8** *P* **109** *L* **20** # 3908

Remein, Duane Huawei Technologies

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

I believe this delay time also needs to include the URNrb and USNcp times.
"The delay time through the EPoC PMA (TPMA) is no less than the sum of the RBframe size multiplied by the OFDM symbol time (RBsize of 8 times or 16 times 20 ƒÝs, see 100.2.9.1) plus the implementation specific processing time of the IDFT (nominal range 10 ƒÝs to 40 ƒÝs)."

SuggestedRemedy

Change to
"The delay time through the EPoC PMA (TPMA) is no less than the sum of the RBframe size multiplied by the OFDM symbol time (RBsize of 8 times or 16 times 20 ƒÝs plus equivalent time in ƒÝs of USNcp and USNrp) see 100.2.9.1) plus the implementation specific processing time of the IDFT (nominal range 10 ƒÝs to 40 ƒÝs)."
Use care for symbols and variable name in italics.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Window size does not added to extended OFDM symbol duration. Current text reads "no less than" and places the burden on the implementer for determining the value for the implementation dependent timer, so therefore is correct as is. The cyclic prefix is very small compared to symbol time, so has little impact. If the TF really wants to add CP time, it can.

Cl **100** *SC* **100.2.10.1** *P* **110** *L* **27** # 3909

Remein, Duane Huawei Technologies

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

This configuration requirement seems to be saying that the user must exhibit some required behavior. This is not typically a feature of 802.3 standards.

SuggestedRemedy

Change
"The CLT shall be configured according to" to
"The CLT should be configured according to"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to "should be" as indicated. Also remove corresponding line from PICS

Cl **100** *SC* **100.2.10.2** *P* **111** *L* **21** # 3910

Remein, Duane Huawei Technologies

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

The phrase "when operating at a CNR as shown in Table 100-13" seems to imply that the required error ratio does not have to be met if the CLT is operating at a CNR better than shown in the table.

Note also that in 100.2.10.2 the list of conditions is a numbered list, in 100.2.12.2 it is a bullet list

SuggestedRemedy

Change from
"The CLT receiver shall be such that the CLT when operating at a CNR as shown in Table 100-13, ..."
to
"The CLT shall achieve a received post-FEC frame loss ratio of 10-6 with 1500 byte MAC packets when the received signal has a CNR better than or equal to that shown in Table 100-13, ..."
Strike the first para.

Change the list style in both 100.2.10.2 and 100.2.12.2 to DL,DashedList

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.12.2.1** *P* **113** *L* **53** # 3911

Remein, Duane Huawei Technologies

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

We do not have "multiple modulation profile configuration"

SuggestedRemedy

Strike "multiple"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.13.2** *P* **116** *L* **41** # 3912

Remein, Duane Huawei Technologies

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

This rule contradicts the first rule in the list:
"The minimum contiguous modulation band has to be 2 MHz"

The 4th rule in the list is not needed (there is only one profile

SuggestedRemedy

Change 3rd item to
"All contiguous modulation bands are to be 2 MHz or greater"

Strike the 4th rule

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Also change: "Exclusion bands separate contiguous modulation bands. " to "Exclusion bands may separate contiguous modulation bands. "

Cl **100** *SC* **100.2.13.2** *P* **116** *L* **48** # 3913

Remein, Duane Huawei Technologies

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

There are only two instances of the term "spanned modulation" in the draft, both in lines 48-49. There is not need to create this unique term

SuggestedRemedy

Change the item from
"Exclusion bands plus individually excluded subcarriers are limited to 20% or less of spanned modulation spectrum, where the spanned modulation spectrum is defined as: frequency of maximum active subcarrier - frequency of minimum active subcarrier."
to
"Exclusion bands plus individually excluded subcarriers are limited to 20% or less of the difference between the maximum and minimum frequencies of all active subcarriers."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Also, Page 117, line 6, "subcarrier" to "subcarriers".

NOTE: RF folks are still thinking about this with respect to gaps between DS OFDM channels.

Cl **100** *SC* **100.2.13.2** *P* **116** *L* **42** # 3914

Remein, Duane Huawei Technologies

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

This is the first instance of the term individually excluded subcarriers. Apparently the term "Exclusion band" is defined in the next "rule" but there is not definition of individually excluded subcarriers.

SuggestedRemedy

Remove the definition of exclusion bands here pg 116 ln 44
Add in 100.2.8.1 the following definitions
pg 91 lin 36
An exclusion band is a contiguous block of excluded spectrum that is 1 MHz wide or greater.
An individually excluded subcarrier is any excluded subcarrier in a contiguous block of excluded spectrum less than 1 MHz.
add xref after individually excluded subcarriers pg 116 line 42 "(see 100.2.8.1)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Clarify as the offending line 42 was removed in Comment #3912.

Cl **100** *SC* **100.2.13.4** *P* **117** *L* **15** # 3915

Remein, Duane Huawei Technologies

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

To be clear the standard does not place restrictions on US excluded subcarrier however neither does it preclude such restrictions.

SuggestedRemedy

Add a clarifying statement
" - CLTs may place restrictions on upstream excluded bandwidth based on the capabilities of the receiver. Such restrictions shall be clearly indicated in the unit data sheet."

Add PICS item in 100.6.2 Major capabilities/options
USEX | Upstream subcarrier exclusion rules | 100.2.13.4 | Documentation indicates upstream subcarrier exclusion rule if any exist | CLT:M | Yes [] No [] N/A []

Proposed Response *Response Status* **W**

PROPOSED REJECT.
we don't need this statement in the specification as the CLT already must assign upstream subcarrier use, pre-equalizer coefficients, etc. specific to its receiver. Also, this opens the door on this standard having to predict everywhere we may anticipate that a vendor's product may need to put restrictions in data sheets. The Editor feels this comment is not necessary as we can't mandate open-ended stipulations on product documentation. If a CLT cannot handle some arbitrary set of exclusions that a cable operator wants to impose on the upstream, then that CLT is not compliant.

Cl **100** *SC* **100.3.3** *P* **118** *L* **23** # 3916

Remein, Duane Huawei Technologies

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

Which typically is typical?
Here we state:
"The measurement is based on upstream probes, which are typically the same probes used for pre-equalization adjustment (see 101.4.3.9)."
In 100.2.11 pg 112 line 23 we state:
"The CLT measures the RxMER using an upstream probe. The probes used for RxMER measurement are typically distinct from the probes used for pre-equalization adjustment."

One must be wrong

SuggestedRemedy

Here in 100.3.3 strike ", which are typically the same probes used for pre-equalization adjustment (see 101.4.3.9)"

In 100.2.11 strike "The probes used for RxMER measurement are typically distinct from the probes used for pre-equalization adjustment."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The suggested remedy is good. Delete the distinction sentences.

Cl **100** *SC* **100.3.4** *P* **118** *L* **47** # 3917

Remein, Duane Huawei Technologies

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

Per 1.4.165 continuous wave (CW): A carrier that is not modulated or switched.

Substituting this definition for the 18 instances of "CW" in the subclause creates grammatical errors and is technically incorrect as all our active subcarrieres are modulated with at least PBSK.

There are lots of other grammatical errors and technical inconsistencies which should be corrected in this section; for ex
pg 118 ln 52 "In this configuration the EPoC OFDM continuous pilot is in fact phase continuous in the time domain; in general the continuous pilots are not phase continuous in the time domain." so continuous pilots are phase continuous but they're not.
Pg 118 line 53 "Continuous pilot means that subcarrier is continuously used ..." grammar

SuggestedRemedy

Sorry but I'm at a loss as to how to fix this.

Grammatical errors could be fixed by ensuring there is an article, such as "a" or "the" before each instance of CW and the word "signal" after. This should be done at a minimum.

The higher level technical issue is a bit more thorny.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Remedy is not specific enough on "grammatical errors". Use of "CW" is consistent with existing Clause 1 definition for the signal that is used as part of the measurement conditions for this subclause on "test phase noise requirements".

Cl **101** *SC* **101.4.2.2** *P* **171** *L* **18** # 3918

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

This comment is essentially a resubmittal of withdrawn comment #3443 against D1.4.
The wording of these para's are overly complex and, in some cases incorrect:
"The CLT downstream OFDM symbol and subcarrier frequency and timing relationship is defined in 101.4.2.3.
Tolerances for the downstream subcarrier clock frequency are given in this subclause Table 100-3). Functional requirements involving ... and downstream subcarrier frequencies."

Can we just say that if you pass the phase noise it can be assume that the clock jitter requirements are met? Can we make Table 101-9 informative (since otherwise we need to identify a place where it is to be measured).

Note that the xref to Table 100-3 is tied to Figure 100-3 and needs to be corrected also.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See lauback_3bn_10_0915.pdf

Cl **67** *SC* **67.6.1** *P* **74** *L* **21** # 3919

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D** *EZ*

The paragraph wording does not match the wording in P802.3bx (shown below for D3.2) which may be different from the 2012 STD
"This ability should be used only when the OAM sublayer is present and enabled or for a 1000BASE-PX-D, 10/1GBASE-PRX, or 10GBASE-PR PHY. Otherwise, MAC Client frames will be sent across a unidirectional link potentially causing havoc with bridge and other higher layer protocols. The feature should not be enabled for 1000BASE-PX-U, 10/1GBASE-PRX-U, or 10GBASE-PR-U PHYs in service, to avoid simultaneous transmission by more than one ONU."

SuggestedRemedy

Align wording to that in 802.3bx as
"This ability should be used only when the OAM sublayer is present and enabled or for an OLT or CLT PHY. Otherwise, MAC Client frames will be sent across a unidirectional link potentially causing havoc with bridge and other higher layer protocols. The feature should not be enabled for ONU or CNU PHYs in service, to avoid simultaneous transmission by more than one ONU or CNU."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.2** *P* **92** *L* **14** # 3920

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

How is this statement accomplished?
"The configured average power of an equivalent 6 MHz channel for the second channel is equal to the configured average power of an equivalent 6 MHz channel for the first channel plus X dB. Different offsets are computed separately for the third, fourth, and fifth channels."
It seems to contradict the definition of
DS_PowerCh(n)
Type: 9-bit unsigned integer.
This variable specifies the downstream CLT transmit power, in units of 0.2 dBmV / 6MHz, for OFDM channel n (1 "T n "T 5). The value is set according to the requirements in Table 100¡V5."
Which says nothing about offsets from Ch1

SuggestedRemedy

Change lines 8-17 beginning ... ending with "- The configured average power of an equivalent ... separately for the third, fourth, and fifth channels"
To
"The configured average power of an equivalent 6 MHz channel for each OFDM channel is set using the DS_PowerCh(n) variable where n is the channel number."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace lines 3-17 with the text in kolze_3bn_10_0915.pdf

Cl **100** *SC* **100.2.8.2** *P* **92** *L* **35** # 3921

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Is the "OFDM channel bandwidth" the same as that for OFDMchannelbandwidth used (but not well defined in the text) in Eq 100-4?

SuggestedRemedy

If Yes then Add "(OFDMchannelbandwidth)" in table 100-3 Parameter column in same row as "OFDM channel bandwidth"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.4** *P* **95** *L* **28** # 3922

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Table 100-5 row 4, 5, & 6 "with commanded power difference removed if channel power is independently adjustable"
What does this mean? We have independent power settings per OFDM Channel (see DS_PowerCh(n) in 100.2.8.2.1) hence in EPoC channel power is always independently adjustable.

SuggestedRemedy

Change
"with commanded power difference removed if channel power is independently adjustable"
to
"with all OFDM channels set to the same power level"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Applying only to channels of equal power is a substantial reduction of the scope of the requirement.

Please consider the following.
The requirement we are discussing at this moment boils down to:
Power per equivalent 6 MHz channel, for channel A = A_dB
Power per equivalent 6 MHz channel, for channel B = B_dB

Then there is a requirement that:
Absolute value [(Data subcarrier power for Ch A) - (Data subcarrier power for Ch B)] < 0.5 dB

(Note that the power of pilots is also actually included, and averaging of the power would be in order. There are requirements on flatness or accuracy of the subcarrier powers in each channel independently. This requirement is aimed at ensuring that the various channels are set accurately with respect to each other. Absolute accuracy is another requirement, and is not as tight as the relative accuracy between channels.)

If the TF wants this explanation placed into the draft, then the TF can help craft the text during comment resolution.

Cl **100** *SC* **100.2.8.5** *P* **96** *L* **10** # 3923

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

I find at least 6 shall statements defining various conditions under which Out-of-band noise and spurious must be met yet there is only on requirement for Out-of-band noise and spurious in the PICS (CLTSE). There should be a one-to-one correspondence between shall statements and requirements.

SuggestedRemedy

Reword the requirement in this section so that there is one global shall such as
"The CLT modulator shall satisfy the out-of-band spurious emissions requirements of Table 100-6 under the following conditions:
- for measurements below 600 MHz and outside the encompassed spectrum when the active OFDM channels are contiguous or when the ratio of modulated spectrum to gap spectrum within the encompassed spectrum is 4:1 or greater. Gap spectrum is spectrum between active OFDM channel's occupied spectrum and excluded bands within OFDM channel's occupied spectrum.
- in gap spectrum between OFDM channels of at least 6 MHz and gap spectrum within OFDM channels of at least 8 MHz, except for the 1 MHz of excluded subcarriers on each edge of any exclusion band, with relaxations as described in the following paragraphs when applicable.
..."

Search the section for "hidden" requirements and reword accordingly (i.e., include in above global requirement or reword so they are clearly not a requirmeent). For example on pg 97 line 9 has the text "the equipment has to meet spurious emissions requirements" which appears to be implying a requirement but does not follow correct 802.3 form.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
but put each SHALL into the PICS rather than re-word the text. The text has different requirement cases that should be enumerated separately.

Cl **100** *SC* **100.2.8.6** *P* **99** *L* **5** # 3924

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

The Editor shall remove the "MUST" in "The CLT MUST provide for independent selection of center frequency with the ratio of number of active channels to gap spectrum in the encompassed spectrum being at least 2:1."
More importantly what is meant by "active channels"? We only have a maximum of 5 active OFDM channels and there can be many more excluded bands (which if I read pg 96 line 12 qualifies as a "Gap") so this 2:1 ratio will be very hard to maintain if this is the intention.

SuggestedRemedy

Clarify the sentence removing the MUST.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change: "The CLT MUST provide" to "The CLT shall provide"
Change: "number of active channels" to "modulated spectrum"

Cl **100** *SC* **100.2.9.5.2** *P* **103** *L* **13** # 3925

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

"In the rest of the spectrum" Really? Everything outside what is described in the previous two para? From here to infinity and beyond!

SuggestedRemedy

Clarify what is meant by "In the rest of the spectrum" so it is bounded.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Feedback to Buzz: upstream spectrum is defined in Table 100-11. This is the passpand and defines the "rest of the spectrum".

Cl **100** *SC* **100.2.9.5.1** *P* **101** *L* **24** # 3926

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Conflicting definitions
Eq 101-13 and 100-17 both purport to define the ungainly variable "Under-grant Hold Bandwidth"

SuggestedRemedy

Rationalize the two definitions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Reject.
Eq 101-13 doesn't relate to the topic of spurious noise emissions, otherwise AIP
Page 101 line 21 through line 31: Change "Under-grand Hold Bandwidth" to "Under-grand Hold Subcarriers"

Cl **100** *SC* *P* *L* # 3927

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

"Grant Bandwidth" which is written as a variable
1) is an Undefined term
2) Crosses a line

SuggestedRemedy

Define and avoid line feeds in variables.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Fix the line cross problem.
Grant Bandwidth" should be "Grant Spectrum". Add a definition for "grant spectrum" into Clause 100.2.9.5.2: "<ital>Grant Spectrum<ital> is the spectrum of the grant (number of resource blocks multiplied by the bandwidth of a single RB) allocated to a CNU in a given RB Frame (see 101.4.3.3.1). <ital>Grant Spectrum<ital> may vary from one RB Frame to another. <ital>100% Grant Spectrum<ital> is the bandwidth of the entire upstream transmission resource, which occurs with probes, which incorporate all resource blocks and unused subcarriers."

Cl **100** *SC* **100.2.9.5.4** *P* **106** *L* **31** # 3928

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

This section contains four shalls with no PIC entry.

SuggestedRemedy

Remove "shalls" or create a PICS statement for each.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add PICS entries.

Cl **100** *SC* **100.2.11** *P* **112** *L* **29** # 3929

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

The statement implies there is a way to specify which CNU the CLT is to collect RxMER measurements for but there is no Cl 45 register for this purpose.

SuggestedRemedy

Add section 100.2.11.1 Variables.

Move definition of RxMER_SC(n) and RxMER_Valid from 100.2.12.3.1 to new section 100.2.11.1

Change the definition of RxMER_Valid from:
"... for the OFDM channel indicated by RxMER_ChID ..." to
"... for the CNU indicated by RxMER_CNU_ID or the OFDM channel indicated by RxMER_ChID ..."

Add new variable:
"RxMER_CNU_ID
TYPE: unsigned 14-bit integer
This variable identifies the CNU on which to measure the RxMER in the CLT. When set in the CLT the values in RxMER_SC(n) will reflect the measurements of the CNU whose CNU_ID matches RxMER_CNU_ID when RxMER_Valid goes TRUE. In the CNU this variable is read only and will always have a value of one."

Add row to Table 100-1
MER measurement CNU ID | 10GPASS-XR receive MER Control | 12.10241.14:0 | RxMER_CNU_ID | 11241 | 14:0

Change
"45.2.7a.5 10GPASS-XR receive MER control register (Register 12.10240)" to
"45.2.7a.5 10GPASS-XR receive MER control register (Registers 12.10240 and 12.10241)"

Add to Table 45-211f
12.10241.15 | Reserved | Value always 0 | RO
12.10241.14:0 | MER measurement CNU ID | Indicates the CNU on which to measure receive MER at the CLT | R/Wc
cThese bits are valid only in the CLT, in the CNU these bits are reserved and always 0

Add
42.2.7a.5. MER measurement CNU ID (12.10241.14:0)
Bits 12.10241.14:0 indicate the CNU on which to measure receive MER at the CLT. In the CNU these bits are reserved and always 0. These bits are a reflection of variable RxMER_CNU_ID defined in 100.2.11.1

Change 45.2.7a.6 accordingly (Reg 10242 through 12.12287, SC 4 & 5 vs 2 & 3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
As per suggest remedy with following caveats: CLT requirement to store RxMER values from a single CNU as per the CNU ID.

Suggest change: "This variable identifies the CNU on which to measure the RxMER in the CLT." to "This variable identifies for the CLT the CNU for which the CLT is to measure the upstream RxMER."

Cl **100** *SC* **100.2.12.2** *P* **113** *L* **42** # 3930

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Duplicate requirements; 1st para of 100.2.12.2 & 100.2.12.2.1. Also what if CNR is better than that of T 100-15?

SuggestedRemedy

Strike Para under 100.2.12.2

Change 1st para in 100.2.12.2.1 from
"CNU frame loss ratio shall be less than or equal that shown in when operating at a CNR as shown in Table 100-15, ... "
to
"The CNU shall achieve a received post-FEC frame loss ratio of 10-6 with 1500 byte MAC packets when the received signal has a CNR better than or equal to that shown in Table 100-15, ..."

Update PICS entry CNUER to reflect 100.2.12.2.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Do the text changes, but make 100.2.12.2.1 be 100.2.12.2. Delete heading "100.2.12.2 CNU receiver capabilities". Change "better" to "higher".

Cl **100** *SC* **100.2.12.2.1** *P* **114** *L* **3** # 3931

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

The phrase "Up to fully loaded spectrum" is vague as are the other instances of the word "spectrum" in this list.

SuggestedRemedy

Add line 3 "(i.e., all OFDM channels operating over the entire frequency band specified in Table 100-3)"

change remaining 3 instances of "spectrum" to "occupied spectrum"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add as footnote to "fully loaded spectrum":

The error rate requirements are levied on an individual channel. Those requirements must be met with that channel operating in isolation and up to and including all of the other channels being operated. This is what is meant by "Up to fully loaded spectrum".

Change all "spectrum" to "modulated spectrum" in the dashed list.

Cl **100** *SC* **100.3.1** *P* **117** *L* **31** # 3932

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Presumable the first sentence is referring to the specified limit for port muting.
Secondly the 2nd sentence contradicts the first which clearly states that this "applies with all active OFDM channels commanded to the same transmit power level". How can "Commanding a reduction in the transmit level of any, or all but one, of the active OFDM channels" also apply?

SuggestedRemedy

Change
Change the first sentence to read:
"The specified limit for RF output port muting applies when all active OFDM channels or all active OFDM channels except one are commanded to the same transmit power level.

Strike the 2nd sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Suggested remedy is not the same equivalence to what is intended.
Add to second sentence "Starting with all channels commanded to the same power level, then ".

Cl **100** *SC* **100.3.2** *P* **118** *L* **12** # 3933

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Lines 12-18 define requirements against the CNU and should not be located in the test and measurements section.
Also there are two requirements here and only one is listed in the PICS.
Do we really need to define a variable name (RxMER_mean, RxMER_std & delta_RxMER which are not in the proper format) for such common mathematical entities as the mean and standard deviation?
Lastly is strikes me as odd that there are only requirements for the CNU and none for the CLT.

SuggestedRemedy

Change the last sentence of last bullet from:
"The mean, RxMER_mean in dB, and standard deviation, RxMER_std in dB, are computed over the M measurements at both CNR values. The statistical computations are performed directly on the dB values."
to
"The mean and standard deviation (in dB) of the RxMER measurements are computed over the M measurements at both CNR values. The statistical computations are performed directly on the dB values.

Strike lines 12-18

In 100.2.12.3 pg 114 line 45-46 add:
"The CNU shall provide RxMER measurements with a standard deviation of <= 0.5 dB under the specified conditions specified in 100.3.2.
The difference between the RxMER mean measure at CNR = 35 dB and the mean measure at CNR = 30 dB shall be between 4 dB and 6 dB when measured under he specified conditions specified in 100.3.2."

Why there is no complementary specification for RxMER measured at the CLT is beyond my scope but should be addressed by the TF.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The prior decision of the TF was to move anything related to test (and "performance under specified conditions") into 100.3. These test sections do have requirements. Section 100.3.2 is about CNU MER testing, doesn't include any CLT requirements. RxMER_mean, RxMER_std, and delta_RxMER need not be formalized into official variables, as they are used to specify the nature of the CNU's providing RxMER measurements. Technical contributions are welcome for CLT RxMER *testing* requirements, otherwise see 100.2.11.

Cl **100** *SC* **100.3.3** *P* **118** *L* **20** # 3934

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D** *Upstream power reporting*

A number of issues in this section:
1) which "upstream channel power metric" does this refer to?
2) assuming this power metric is to be reported there is no variables defined to use and nothing in Cl 45 to do this.
3) is "for a single specified upstream user" the same as a CNU?
4) there is no variable defined here or in Cl 45 to "provide configurable averaging over a range at least including 1 to 32 probes"
5) This appears to be a CLT requirement (something the CLT is required to do) not a test requirement (something to be done in a lab, verification of the capability is done in a lab environment but that is not unusual).
6) Why is this statement here? While digital power measurements are inherently accurate, the measurement referred to the analog input depends on available calibration accuracy.

SuggestedRemedy

Move this entire section to new section 100.2.10.3. In the moved text:
Change:
"upstream channel power metric" to
"Upstream received power measurement (RxPwr)"
Change:
"for a single specified upstream user" to
"for a single specified CNU"
Strike the statement "While digital power measurements ... calibration accuracy."
Change the "should"s in the 2nd para to definitive statements such as The CLT provides ..."

Create and define new variables;
RxPwr (8-bit integer?) defined appropriately
RxPwr_CNUI_D (14-bit integer) defined appropriately
RxPwrAve (5-bit integer) defined appropriately
RxPwrValid (Boolean) defined appropriately

Create new register set in Cl 45 (1.1958 and 1.1959 should work), define and assign bits appropriately

Update Table 100-1 appropriately

Update PICS with new clause number

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Leave as 100.3.3 as this is a test subclause and needs to remain in 100.3 as per line 32.
Upstream reported power needs to be added and aligned with comment #3904.
Otherwise, as per comment.

Cl **45** *SC* **45.2.1** *P* **32** *L* **30** # 3935
Remein, Duane Huawei Technologies

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

Specifically stating the number of new rows in probably not a good idea as it is likely to get out of sync with the draft.

SuggestedRemedy

Remove " 30" from editing instruction, (add "in Table 45-3" after "below it so Editing Instruction reads:
"Change the identified reserved row and insert new rows below it in Table 45-3 as follows (unchanged rows not shown):"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See Cmt 3899

Cl **45** *SC* **45.2.1.131.3** *P* **38** *L* **27** # 3936
Remein, Duane Huawei Technologies

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

Incomplete sentence: "When bit 1.1900.2 is used to control marking of frames with CRC40 errors to higher layers as described in 101.3.3.1.4."

SuggestedRemedy

Strike the "When"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.134.2** *P* **41** *L* **31** # 3937
Remein, Duane Huawei Technologies

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

Missing "the variable" before RBsize

SuggestedRemedy

Add

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.1** *P* **169** *L* **3** # 3938
Remein, Duane Huawei Technologies

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

What?
"When bit this variable is set"

SuggestedRemedy

Change to: "When this variable is set"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.1.1** *P* **58** *L* **45** # 3939
Remein, Duane Huawei Technologies

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

More accurately
"the OFDM descriptor" is "OFDM DS profile descriptor"

SuggestedRemedy

Change to
"OFDM descriptor" to "OFDM DS profile descriptor" in 2 places in this para.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.4** *P* **61** *L* **5** # 3940
Remein, Duane Huawei Technologies

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

"part" s/b "parts"

at line 8 & 9
"register pair (12.2050 and 12.2051) respectively control" s/b
"register pair (12.2050 and 12.2051), respectively controls"
"(12.10238 and 12.10239) control" s/b
"(12.10238 and 12.10239) controls"

at line 13
"12.2049 respectively" s/b "12.2049, respectively"

SuggestedRemedy

per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.137.2** *P* **43** *L* **44** # 3941
Remein, Duane Huawei Technologies

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

Stray "." in "initiated.and"

SuggestedRemedy

Replace with space

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **1** *L* **1** # 3942
Remein, Duane Huawei Technologies

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

Check the characters that can precede a line break in each clause:
Choose Format > Document > Text Options
Remove "/" and en-dash if present.

SuggestedRemedy

per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.1.2** *P* **237** *L* **19** # 3943
Remein, Duane Huawei Technologies

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

In Fig 102-3 "Frame Timing" and "EPoC Variables" are not strictly functional blocks and should not have boxes around them. Likewise in Fig 102-4.

SuggestedRemedy

Remove the boxes from Frame Timing and EPoC Variables. Consider matching case (all caps) for these and other analogous items in Fig 100-2/3/4/5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.5** *P* **83** *L* **16** # 3944
Remein, Duane Huawei Technologies

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

This title seems a bit odd for a PMD clause and does not match the para text.

SuggestedRemedy

Change from
"Mapping of PCS, and PMA variables"
to
"Mapping of PMD variables"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **83** *L* **16** # 3945
Remein, Duane Huawei Technologies

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

Title and Headings in Table 100-1 (and 101-1 and 102-3) could be more accurate.

SuggestedRemedy

Change the title to each table to "MDIO register to PHY variable mapping"
Change PMA/PMD register name" to "MDIO register name"
Change PMA/PMD variable" to "PHY variable"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.1.1** *P* **86** *L* **16** # 3946
Remein, Duane Huawei Technologies

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

The ref. para 77.2.2.1 then points to 64.2.2.1. A reference to a reference makes no sense.

SuggestedRemedy

Change 77.2.2.1 to 64.2.2.1

Proposed Response *Response Status* **W**

PROPOSED REJECT.
We decided in a prior comment round discussion that P802.3bn cross references the 10G EPON clauses, regardless of what those clause reference.

Cl **00** *SC* **0** *P* **37** *L* **36** # 3947

Remein, Duane Huawei Technologies

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

Much of this register is status; this should be reflected in it's name

SuggestedRemedy

Change in 9 places:
"10GPASS-XR control" to
"10GPASS-XR control and status"

Table 45–3 1x
Cl 45.2.1.131 3x
Table 101–1 2x
Table 102–3 3x

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.5** *P* **96** *L* **8** # 3948

Remein, Duane Huawei Technologies

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

"(of the OFDM channel containing the PHY Link)" is well known.

SuggestedRemedy

Strike the phrase.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
All OFDM power settings are made relative the the 6 MHz band containing the PHY Link in DS Channel 1, need to be clear that it is in the first OFDM channel.

Change "(of the OFDM channel containing the PHY Link). " to "contained in OFDM channel 1."

Cl **100** *SC* **100.2.8.5** *P* **97** *L* **47** # 3949

Remein, Duane Huawei Technologies

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

The lawyer who wrote this section added an extraneous OFDM I believe in:
"For the measurement OFDM channels adjacent to a contiguous block of channels, ... " The sentence refers to a measurement channel not an OFDM channel.

SuggestedRemedy

strike the extraneous OFDM

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
To maintain parallel construction with the second sentence: Change "For the measurement OFDM channels " to "For a measurement channel ".

Cl **100** *SC* **100.2.9.5.2** *P* **103** *L* **24** # 3950

Remein, Duane Huawei Technologies

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

"Spur Floor" should be "SpurFloor" (and in italics)

SuggestedRemedy

per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.5.3** *P* **105** *L* **2** # 3951

Remein, Duane Huawei Technologies

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

Reference to "calculated as above," which above, there are lots of calculations above to choose from.

SuggestedRemedy

Provide a specific reference to a section or table.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* *P* **107** *L* **11** # 3952
Remein, Duane Huawei Technologies

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

In all the following formulas "used in the following formula"? Even in those of other clauses to be defined in some far distant future?

SuggestedRemedy

Change to specific reference such as "use in Equation 100-19 and Equation 100-20"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.6.1** *P* **107** *L* **23** # 3953
Remein, Duane Huawei Technologies

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

Mnemonic "RB" not defined in this context.
"MER per RB ..."

SuggestedRemedy

replace with "resource block"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
As per comment, also italize "RBMER" in sentence.

Cl **100** *SC* **100.2.12.2.1** *P* **113** *L* **54** # 3954
Remein, Duane Huawei Technologies

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

Which spec? There are many many specs of dust to choose from!

Same issues pg 114 line 9-10

SuggestedRemedy

Change "spec" to "standard"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.5** *P* **98** *L* **2** # 3955
Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D**

What is a "commanded channel"?
"Items 1 through 4 list the requirements in channels adjacent to the commanded channels."

SuggestedRemedy

I don't know but the term is only used in this para.
Change to "OFDM Channel under test"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This isn't a test subclause.
Change: "Items 1 through 4 list the requirements in channels adjacent to the commanded channels. Item 5 lists the requirements in all other channels further from the commanded channels. Some of these "other" channels are allowed to be excluded from meeting the Item 5 specification. All the exclusions, such as 2nd and 3rd harmonics of the commanded channel, are fully identified in the table. Item 6 lists the requirements on the 2Neqport ' 2nd harmonic channels and the 3Neqport ' 3rd harmonic channels. "
to: "Items 1 through 4 list the requirements in channels adjacent to the modulated channels. Item 5 lists the requirements in all other channels further from the modulated channels. Some of these "other" channels are allowed to be excluded from meeting the Item 5 specification. All the exclusions, such as 2nd and 3rd harmonics of the modulated channel, are fully identified in the table. Item 6 lists the requirements on the 2Neqport ' 2nd harmonic channels and the 3Neqport ' 3rd harmonic channels. "

Cl **00** *SC* **100.2.6** *P* **88** *L* **25** # 3956

Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D**

There are 598 instances of "channel" in the draft. 319 are preceded by OFDM and 24 by OFDMA, the remaining 255 should be checked by the editors to see if the it is clear precisely which channel is being referred to.

SuggestedRemedy

Where necessary clarify with one of the following:
"OFDM" (ex Cl 45.2.7a.5.1 pg 62 ln 10
"the channel indicated" -> "the OFDM channel indicated")
"OFDMA" (no ex found)
"baseline" (ex as in Cl 100.2.6 pg 88 ln 28)
"gap" (ex as in Table 100-5 note pg 95 ln 44)
"equivalent 6 MHz" (ex as in Table 100-3 Pg 93 ln 5)

(The Editors are invited to add additional qualifying words as needed)
The end result is that nearly all 598 instance have some qualifier.

*** Change to Cl 00 before bring accepted by TF. ***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
P802.3bn is consistent with the definition of "channel" in the 802.3 definitions, so extra qualification of "OFDM" or "OFMDA" only where it really needs to be done.

Cl **100** *SC* **100.2.9.4** *P* **100** *L* **28** # 3957

Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D** *EZ*

"The CNU updates its reported power per channel in each channel by the following steps" but the CNU only has one OFDMA channel.

SuggestedRemedy

Change to:
"The CNU updates its reported power by the following steps"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.5.1** *P* **101** *L* **37** # 3958

Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D**

Formatting "The measurement bandwidth for"
"measurement bandwidth" is not a variable near as I can tell (as opposed to measurementBW which is)

same for
pg 101 line 41-42
pg 102 line 13-14
pg 104 line 34, 36-37, 37-39, 48, 9-11 (Table header), 32 (note b), (6 x)
pg 105 line 13, 22
pg 106 line 7-10 (table header)

SuggestedRemedy

Change character style to default paragraph style.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Page 102, Line 11, change "measurementBW" to "Measurement Bandwidth". Add sentence after line 11 formula, "where <ital>Measurement Bandwidth<ital> value is defined in Table 100-8 and Table 100-9.".
In formula on line 11, replace "10% modulated spectrum" with "(100% Grant Spectrum / 10)"
In other listed places change "measurement bandwidth" to "Measurement Bandwidth".
Page 101, line 38, add "(see Table 100-8 and Table 100-9)" to end of sentence.

Cl **100** *SC* **100.2.9.5.2** *P* **103** *L* **3** # 3959

Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D** *EZ*

This statement strikes me as odd "Table 100-8 lists the required spurious level in a measurement interval." I would expect that if I can by some miracle be able to make a transmitter without any spurious levels I am not allowed to do so. :-(

A similar issues exists at SCL 100.2.9.5.3 pg 104 line 41 "Table 100-8 lists the required adjacent channel spurious emission levels when there ..."

SuggestedRemedy

Change the statement to read:
"Table 100-8 lists the allowed spurious emissions for Under-grant Hold Bandwidth conditions."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.5.3** *P* **105** *L* **18** # 3960
Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D**

When is a table not a table? when it has not header or reference.

SuggestedRemedy

Change table at line 17-24 to properly formatted table. with title
Requirements for adjacent spurious power in adjacent 400 kHz":
Header "Parameter" | "Units"

Change sentence at line 15 from
"The requirements for adjacent spurious power in adjacent 400 kHz are listed in Table 100-X." using proper cross ref.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to unnumbered equations. (that is what they are...)

Cl **100** *SC* **100.2.12.3** *P* **114** *L* **39** # 3961
Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D**

This is the second definition of RxMER, the first appears in 100.2.11. Unfortunately they are slightly different:
100.2.11 "For the purposes of this measurement, RxMER is defined as the ratio of the average power of the ideal BPSK constellation to the average error-vector power. The error vector is the difference between the equalized received probe value and the known correct probe value."

100.2.12.3 "RxMER here is defined as the ratio of the average power of the ideal QAM constellation to the average error-vector power."

SuggestedRemedy

Change the definition in 100.2.11 from:
"For the purposes of this measurement, ..." to
"For the purposes of RxMER measurement at the CLT, ..."

Change the definition in 100.2.12.3 from:
"RxMER here is defined as ..." to
""For the purposes of RxMER measurement at the CNU, RxMER is defined as ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.3.3** *P* **118** *L* **23** # 3962
Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D** *EZ*

We do not have line cards, only CNUs and CLTs. All else is implementation

SuggestedRemedy

Strike "line card"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.131** *P* **37** *L* **47** # 3963
Remein, Duane Huawei Technologies

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

We should be explicit about values for link up ready
"The CNU is ready to enter the Link-Up state"
Also "R/w"

SuggestedRemedy

Change to:
1 = the CNU is ready to enter the Link-Up state
0 = The CNU is not ready to enter the Link-Up state

Change "R/w" to "R/W"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.7.3** *P* **90** *L* **50** # 3964

Remein, Duane Huawei Technologies

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

While the bit definition allows for a SC0 center freq of 0 MHz the minimum value of 100 does not. Note also that this is a variable not a register.
"This definition equates to a subcarrier 0 center frequency of from 0 MHz to 3276.75 GHz. The minimum value for this register is 100."
Also 3276.75 GHz seems a bit high.

SuggestedRemedy

Change to read:
"The minimum value for this variable is 100. This definition equates to a subcarrier 0 center frequency of from 5 to 3276.75 MHz.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Line 50: "Change OFDM" to "OFDMA".
Otherwise, the bottom edge of upstream was changed from 5.0 MHz to 7.4 MHz (due to IDFT subcarrier use) in a prior comment round. Adjust the remedy to accommodate starting at 7.4 MHz.

Cl **45** *SC* **45.2.1.135** *P* **41** *L* **49** # 3965

Remein, Duane Huawei Technologies

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

This level of detail is not needed as the ruling definition is in 100.2.7.3.

SuggestedRemedy

Strike:
"Subcarriers are numbered from 0 to 4095 with subcarrier 0 at the lowest frequency. This definition equates to a center frequency from 0 MHz to 3.27675 GHz in 50 kHz steps. The minimum value for this register is 100."
so the statement reads:
"Register 1.1908 indicates the center frequency of subcarrier 0 for the upstream OFDM channel. This register is a reflection of the variable US_FreqCh1 defined in 100.2.7.3."

In Table 45-98e strike "in steps of 50 kHz"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.1.1** *P* **169** *L* **3** # 3966

Remein, Duane Huawei Technologies

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

We haven't specified when DS/US_PrflCpy is cleared.

SuggestedRemedy

Add to each definition:
"The PHY sets this variable to zero on or before indicating the copy process has completed."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.149** *P* **48** *L* **49** # 3967

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Soc*

This definition of FEC codeword counter does not match the variable it is intended to reflect FecCodeWordCount defined in 101.3.3.1.6
Here we define a non-rollover clear on read variable whereas in 101.3.3.1.6 FecCodeWordCount is described as rollover counter.
The same is true for45.2.1.150 10GPASS-XR FEC codeword success and 45.2.1.151 10GPASS-XR FEC codeword fail.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change FEC codeword counter, FEC codeword counter success, and FEC codeword counter fail to normal counters (not clear on read, non-rollover) in clause 45.

Cl **45** *SC* **45.2.1.152** *P* **50** *L* **48** # 3968

Remein, Duane Huawei Technologies

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

Normative shall's not needed here as ruling definition is in 102.2.6.2. The same is true for:
45.2.1.153 PHY Link EPFH error counter,
45.2.1.154 PHY Link EPCH counter,
45.2.1.155 PHY Link EPCH error counter,
45.2.1.156 PHY Link EMB counter,
45.2.1.157 PHY Link EMB error counter,
45.2.1.158 PHY Link FPMB counter, and
45.2.1.159 PHY Link FPMB error counter

SuggestedRemedy

Remove the "shall's from these sections. for example change:
"The assignment of bits in the PHY Link EPFH counter is shown in Table 45–98v. This register shall be reset to all zeros when read by the management function or upon PHY reset. These bits shall be held at all ones in the case of overflow. This register is a reflection of the counter EPFHcnt defined in 102.2.6.2."
To:
"The assignment of bits in the PHY Link EPFH counter is shown in Table 45–98v. This register is reset to all zeros when read by the management function or upon PHY reset. These bits are held at all ones in the case of overflow. This register is a reflection of the counter EPFHcnt defined in 102.2.6.2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.163** *P* **56** *L* **10** # 3969

Remein, Duane Huawei Technologies

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

The description for bits 1.1951.15:8 in Table 45-98ag leave much to be desired.

SuggestedRemedy

Change table entry to read:
"indicate the power increase of the PHY Discovery Response if there is no acknowledgment"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **56** *SC* **56.1.3** *P* **71** *L* **13** # 3970

Remein, Duane Huawei Technologies

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

Is it really proper to refer to "One coaxial cable connected to a CCDN"? We do not refer to One single mode fiber connected to a PON for EPON.

SuggestedRemedy

Change to "one CCDN"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.8** *P* **156** *L* **22** # 3971

Remein, Duane Huawei Technologies

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

"Burst_Time_Header()" in state AGGREGATE_BURST_TIME_HEADER is undefined. However BurstTimeHeader() is.

SuggestedRemedy

Change to "BurstTimeHeader() in SD.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.4** *P* **34** *L* **48** # 3972

Marris, Arthur Cadence Design Syste

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

No description of "10GPASS-XR capable" bit

SuggestedRemedy

802.3by is using 45.2.1.4.a so add the following:

Insert new subclause 45.2.1.4.b before 45.2.1.4.1 as follows:
45.2.1.4.b 10GPASS-XR capable (1.4.10)
When read as a one, bit 1.4.11 indicates that the PMA/PMD is able to operate as 10GPASS-XR. When read as a zero, bit 1.4.10 indicates that the PMA/PMD is not able to operate as 10GPASS-XR.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add new editing instruction pg 34 line 46:
"Insert 45.2.1.4.b after 45.2.1.4.a (as inserted by IEEE Std 802.3by-201x) as follows:"

Add subclause 45.2.1.4.b
"45.2.1.4.b 10GPASS-XR capable (1.4.10)
When read as a one, bit 1.4.10 indicates that the PMA/PMD is able to operate as 10GPASS-XR. When read as a zero, bit 1.4.10 indicates that the PMA/PMD is not able to operate as 10GPASS-XR."

Cl **01** *SC* **1.5** *P* **27** *L* **25** # 3973

Victor Hou Broadcom Corporation

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

Definition of abbreviation HFC is not correct.

SuggestedRemedy

The definition should be "Hybrid Fiber Coax", not "Hybrid Fiber Coax Network."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.2** *P* **93** *L* **10** # 3974

Paul Nikolich self

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

Several rows of table 100-3 specify an "average MER". It is not clear to me how to compute that average. Is it the sum of MERs in dBs of all the subcarriers divided by the total number of subcarriers? Or is the 10 log (the sum of MERs of all the subcarriers divided by the total number of subcarriers)? Or is it something else? 100.2.8.2 CLT output electrical requirements, Table 100-3 CLT RF output requirements Line: 10 15, 20 (average MER rows)

SuggestedRemedy

Specify how to compute the average MER

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The "RF folks" feels this is well understood in the art. Rich Prodan has volunteered to follow up on this with the Commenter.

Cl **00** *SC* **all** *P* **all** *L* **all** # 3975

Paul Nikolich self

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

Kudos to the Task Group for their perseverance in completing this draft and bringing it to WG ballot

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.
No Change to the draft (Sorry fo rthe Rject) but thanks for the Kudos. Much appreciated.

Cl **00** *SC* **0** *P* **13** *L* **1** # 3976

Booth, Brad Microsoft

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

Table of Contents per the IEEE-SA style guide is only required to show up to heading #3.

SuggestedRemedy

Change to only show 3 levels of headers.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4.144a** *P* **26** *L* **20** # 3977
Booth, Brad Microsoft

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

Definition does not follow typical format.

Also applies to 1.4.144b and c.

SuggestedRemedy

Change to read:
1.4.144a coax cable distribution network (CCDN):...
1.4.144b coax line terminal (CLT):...
1.4.144c coax network unit (CNU):...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4.294a** *P* **26** *L* **47** # 3978
Booth, Brad Microsoft

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

Don't use the acronym in the definition.

Also applies to 1.4.345a.

SuggestedRemedy

Change to read:
1.4.294a orthogonal frequency division multiplexing (OFDM) channel:...
1.4.345a quadrature amplitude modulation (QAM) symbol:...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
OFDM channel is used extensively in the draft (appears >250x). Thus it is probably a good thing to keep in the definitions list.

Change 1.4.294a to read:
1.4.294a OFDM channel: see 1.4.306a orthogonal frequency division multiplexing (OFDM) channel.
Add 1.4.306a
Insert the following definition after 1.4.306 "Organizationally Unique Identifier (OUI)" as follows:
1.4.306a orthogonal frequency division multiplexing (OFDM) channel: … " using definition from current 1.4.294a

Change 1.4.345a as suggested.

Cl **00** *SC* **45.2.1** *P* **33** *L* **12** # 3979
Booth, Brad Microsoft

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

Overuse of the US and DS acronyms. While acronyms are easily understood by those working closely with the draft, the DS and US terms can create confusion (is US the USA?).

See Table 75B-1 for how US and DS were used.

SuggestedRemedy

Change DS to be downstream and US to be upstream.

Change in the registers and other tables in Clause 45. Review EPoC clauses to ensure the use of the terms are easily understood.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed from Cl 45 to Cl 00.

Most of the 585 instances of "DS" and 430 instances of "US" occur in variable names or register names. In such cases no changes will be made.
In cases where these acronyms obscure in subclause titles or para text these will be changed to upstream and downstream as requested.

Cl **00** *SC* **101.3.3.1.8** *P* **163** *L* **19** # 3980
Booth, Brad Microsoft

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

Figures 101-13 and 101-14 don't follow required format and are hard to read.

SuggestedRemedy

Correct to use the proper font (Helvetica, Arial) in the figures. Align text blocks so that the words don't touch the lines.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per IEEE Style guide fonts in graphic are to be either Times New Roman or Arial. Most SD in the current STD are in Arial. P802.3bn will use Arial (9 pt prefered) for SD.

Changed to Cl 00

Cl **101** *SC* **101.4.3.3.6** *P* **201** *L* **1** # 3981
Booth, Brad Microsoft

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

Figure 101-29 font size is inconsistent with previous figures.

SuggestedRemedy

Correct the font size.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Per IEEE Style guide fonts in graphic are to be either Times New Roman or Arial. Most SD in the current STD are in Arial. P802.3bn will use Arial (9 pt prefered) for SD.

Cl **102** *SC* **102.4.1.8.7** *P* **276** *L* **5** # 3982
Booth, Brad Microsoft

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

Figure 102-24, 102-29 and 102-30 are inconsistent in the font style and hard to read.

SuggestedRemedy

Change to use the correct font. Fix the boxes to remove overhangs and thick lines.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Per IEEE Style guide fonts in graphic are to be either Times New Roman or Arial. Most SD in the current STD are in Arial. P802.3bn will use Arial (9 pt prefered) for SD.

Cl **01** *SC* **1.4.345a** *P* **27** *L* **3** # 3983
Booth, Brad Microsoft

Comment Type **T** *Comment Status* **D** *QAM symbol def*

As this is an amendment to the 802.3, this draft standard will become part of the whole 802.3; therefore, using terms like "In EPoC, this term..."

SuggestedRemedy

Change definition to read:
"The amplitude-phase representation of the bits of data that modulate a carrier signal or that modulate each of the OFDM subcarriers."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to
"The amplitude-phase representation of the bits of data that modulate a carrier signal or that modulate each of the subcarriers in OFDM."

(also see cmt# 4026)

Cl **102** *SC* **102.2.6.5** *P* **261** *L* **1** # 3984
Booth, Brad Microsoft

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

Figure 102-16 is inconsistent in the font style and hard to read. Transition from WAIT is broken.

SuggestedRemedy

Change to use the correct font. Fix the boxes to remove overhangs and thick lines. Change transition out of WAIT state from Str- to be StrtOfFm.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per IEEE Style guide fonts in graphic are to be either Times New Roman or Arial. Most SD in the current STD are in Arial. P802.3bn will use Arial (9 pt prefered) for SD.

Cl **102** *SC* **102.2.2** *P* **249** *L* **32** # 3985
Szczepanek, Andre Inphi

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

Sentence
"Detection of the PHY Link is the first action a CNU must take to join an EPoC network."
is duplicated

SuggestedRemedy

Remove duplicate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
CommentType was blank - set to E by Editor
Subclause did not include 102; corrected by editor

Cl **100** *SC* **100.2.7.3** *P* **90** *L* **42** # 3986
Szczepanek, Andre Inphi

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

"OFDM channel n"
would be better worded as
"OFDM downstream channel n"
and would be concistent with the text for US_Freq

SuggestedRemedy

Change to
"OFDM downstream channel n"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
To parallel US_FreqCh1, change "the OFDM channel n" to "downstream OFDM channel n".

Subclause did not include 100; added by editor

Cl **56** *SC* **1.2.1** *P* **67** *L* **54** # 3987
Amason, Dale Freescale

Comment Type **E** *Comment Status* **D** *EZ*
Figure 56-4 entered twice.

SuggestedRemedy
Replace second instance of Figure 56-4 with Figure 56-4a

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **1.2.2** *P* **69** *L* **20** # 3988
Amason, Dale Freescale

Comment Type **E** *Comment Status* **D** *EZ*
Missing underline for added text "Clause 101".

SuggestedRemedy
Add underline.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **100** *SC* **1.5** *P* **83** *L* **16** # 3989
Amason, Dale Freescale

Comment Type **E** *Comment Status* **D** *EZ*
Unecessary comma "Mapping of PCS, and PMA variables"

SuggestedRemedy
Remove comma

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **100** *SC* **3.4** *P* **118** *L* **47** # 3990
Amason, Dale Freescale

Comment Type **E** *Comment Status* **D** *EZ*
Poor grammar: "shall be meet"

SuggestedRemedy
Change to "shall meet"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **101** *SC* **Figure 101-8** *P* **154** *L* **27** # 3991
Amason, Dale Freescale

Comment Type **E** *Comment Status* **D** *EZ*
Lone curly bracket { in "FIFO_FEC_TX{sizeFifo]"

SuggestedRemedy
Replace with [

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.1** *P* **144** *L* **1** # 3992
Hidaka, Yasuo Fujitsu Lab. of America

Comment Type **E** *Comment Status* **D** *EZ*
LDCP in captions of table 101-4 and table 101-5 should be LDPC.

SuggestedRemedy
Change LDCP in captions of table 101-4 and table 101-5 with "DPC.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.8** *P* **154** *L* **26** # 3993
Slavick, Jeff Avago Technologies

Comment Type **E** *Comment Status* **D** *EZ*
FIFO_FEC_TX{sizeFifo] has a { instead of [

SuggestedRemedy
Make the { a [

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **103** *SC* **103.3.36** *P* **323** *L* **14** # 3994
Slavick, Jeff Avago Technologies

Comment Type **TR** *Comment Status* **D**

in Figure 103-18 what happens in ACCEPT_REGISTER_REQUEST if both opcode_rx=REGISTER_REQ and insideDiscoveryWindow=FALSE occur at the same time?

SuggestedRemedy

Change the path to SIGNAL state to be insideDiscoveryWindow * opcode_rx=REGISTER_REQ

Proposed Response *Response Status* **W**

PROPOSED REJECT.
This SD is an adaptation of Figure 77-20 with some minor changes such as:
laserOnTime => rfOnTime
laserOffTime => rfOffTime

Given that Fig 77-20 has been implemented numerous time and is know to function correctly it is inadvisable to change it at this time.

If the commentor believes there is an error in the two figures he is invited to submit a maintenance request against the standard.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **102** *SC* **102.4.1.8.7** *P* **276** *L* **10** # 3995
Slavick, Jeff Avago Technologies

Comment Type **TR** *Comment Status* **D**

There is an extra * on the exit from INIT and WIAT_FOR_SOF states in Figure 102-24 that could imply a missing condition for the exit to occur, or could be just be extraneous

SuggestedRemedy

Remove the * or add missing condition(s)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Exit condition s/b
PD_Enable * !PdCmplt * SoSF

Cl **102** *SC* **102.4.1.8.7** *P* **276** *L* **19** # 3996
Slavick, Jeff Avago Technologies

Comment Type **TR** *Comment Status* **D**

In Figure 102-24 in the WAIT_FOR_BDISCWIN state the you do: PdRndDly -= which is missing a value to decrement the variable by

SuggestedRemedy

Convert add the missing decrement value

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
s/b PdRndDly - -

Cl **100** *SC* **3.4** *P* **119** *L* **43** # 4003
Effenberger, Frank Huawei

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

There is a sentence: "The easiest way of validating that the transmitted waveform is as intended to should be employed."
This is poorly worded.

SuggestedRemedy

Recommend replacing sentence with, "The transmitted waveform should be validated in the most practical method available."
(However, does this sentence really add anything? It seems self-evident.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delete this sentence.

Cl **56** *SC* *P* **68** *L* # 4004
Effenberger, Frank Huawei

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

Fig 56-4a has a box labelled "Node" in the Coax network. This is misleading, as "Node" has a very specific meaning in the HFC context. The same term is used in Fig. 100-1, 101-1, and 103-2. Those should be changed as well.

SuggestedRemedy

Replace "Node" with "splitter network".

Proposed Response *Response Status* **W**

PROPOSED REJECT.
P802.3bn is defined to also work through an HFC network, that includes a "node". Making this change would preclude this operation. The TF may want to determine a different label after discussion; e.g. "HFC Network"

Cl **100** *SC* **1.1** *P* **77** *L* **16** # 4005

Effenberger, Frank Huawei

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

The phrase "Trunk and branch" is used here; however, in clause 67.2.3, the term "Tree and branch" term is used. I believe that "tree and branch" is actually the widely used term, even though it is not so correct

SuggestedRemedy

Make the terms uniform, one way or another.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **2.9.5.1** *P* **101** *L* **6** # 4006

Effenberger, Frank Huawei

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

"Spurs" is used without definition, specifically "discrete spurs".

SuggestedRemedy

Define "Spur" as a shortening of "spurious emission".
Define "Discrete spur" as a "spurious emission that is contained within one subcarrier bandwidth" (Is that suitable?)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add a footnote to "spurs" on Line 6 as:
"Discrete (narrowband) spurious emissions, such as a continuous wave (CW) sinusoid or other signal with significant power concentrated in small bandwidth. "

Cl **100** *SC* **1.1** *P* **78** *L* **16** # 4007

Effenberger, Frank Huawei

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

The composition of the CCDN is explained to be cables, taps/couplers, and (optionally) amplifiers. Might it also be mentioned that optical analogs are also possible?

SuggestedRemedy

Add the following phrase after amplifier, "and/or analog optical links"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **2.9.5.4** *P* **106** *L* **42** # 4008

Effenberger, Frank Huawei

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

Regarding transient spurious emissions, it says, "This requirement does not apply to CNU power-on and power-off transients." Which requirement exactly? And, is that really true? A compliant CNU could emit a gamma ray burst of interference when I turn it on or off?

SuggestedRemedy

At a minimum, precise what requirement is being released for the power-on/off transients. And, validate if power cycles really are exempt, because they happen, and if these transients can cause trouble, then they should not be allowed.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Line 42, change "This requirement does not apply to CNU power-on and power-off transients."
to
"The transient response requirement does not apply to CNR power-on and power-off transients."

Cl **00** *SC* **100.1.1** *P* **77** *L* **16** # 4020

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *EZ, comprised*

"comprised of" is incorrect. comprising = composed of.

This usage is repeated several times in the draft.

SuggestedRemedy

Change "comprised of" to "composed of" or "comprising" throughout the draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Changed to Clause 00.

Cl **100** *SC* **100.1.3** *P* **77** *L* **36** # 4021
Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *intro move to 101*

subclause 100.1.3 and figures 100-2 through 100-5 seem to describe the whole PHY, not just the PMD which is the subject of clause 100.

SuggestedRemedy

Consider adding an introduction clause to describe EPoC, OFDM, and the sublayer architecture. This subclause seems to belong there.

Alternatively, move this subclause to clause 56.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Retain Figure 100-1 in Clause 100. Move subclause 100.1.3 paragraph (Page 77, lines 37 through 43) and Figure 100-2, 100-3,100-4, and 100-5 to Clause 101 after other changes have been applied. See comment #3719

Cl **100** *SC* **100.2.1** *P* **85** *L* **50** # 4022
Ran, Adee Intel

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

There is one service interface, with multiple primitives.

SuggestedRemedy

Change "These PMD sublayer service interfaces are" to "The service interface is".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.1** *P* **86** *L* **1** # 4023
Ran, Adee Intel

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

What are "modulation symbols"? are these the QAM symbols defined in 1.4.345a?

SuggestedRemedy

Rephrase to clarify, or add appropriate definition.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "The PMD service interface supports the exchange of a continuous stream of OFDM/OFDMA modulation symbols between the PMA and PMD entities. The modulation symbols are encoded as I / Q value pairs. "
to:
"The PMD service interface supports the exchange of a continuous stream of OFDM/OFDMA time domain sampled waveform between the PMA and PMD entities. The samples are encoded as complex numbers, i.e., I / Q value pairs. "

Cl **100** *SC* **100.2.8.5** *P* **96** *L* **3** # 4024
Ran, Adee Intel

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

This subclause contains several similar paragraphs, the differences are very difficult to discern. It seems that converting it to a table may yield shorter text and make it easier to understand the differences between cases.

SuggestedRemedy

Consider reformatting and adding a table.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The original text author prefers these remain in text format. However, happy to discuss alternate response with the TF during comment resolution.

Cl **45** *SC* **45.2** *P* **31** *L* **32** # 4025
Ran, Adee Intel

Comment Type **T** *Comment Status* **D** *Cl 45 Device Address*

It is not clear what "OFDM" stands for in the context of MDIO. Unlike most other MMD names, there is no sublayer called OFDM. Shouldn't the OFDM control be part of the PMA/PMD?

SuggestedRemedy

Either merge these registers into the PMA/PMD, or provide a reference to where the "OFDM" sublayer/entity is defined, or add a description in 45.2.7a.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See cmt# 4064

Cl **01** *SC* **1.4.345a** *P* **27** *L* **4** # 4026
Ran, Adee Intel

Comment Type **T** *Comment Status* **D** *QAM symbol def*

Definition of QAM symbol uses the term "OFDM subcarrier" which is not defined.

Likewise, "OFDM channel" (1.4.294a) uses the term "QAM subcarrier" which is not defined, but may be understood from the context.

The final part of the sentence "or, in OFDM, that modulate each of the OFDM subcarriers" does not seem necessary for the definition of "QAM symbol".

SuggestedRemedy

Change "OFDM subcarrier" here to "QAM subcarrier".

Alternatively, remove "or, in OFDM, that modulate each of the OFDM subcarriers".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See cmt 3983

Cl **100** *SC* **100.1.5** *P* **83** *L* **16** # 4027
Ran, Adee Intel

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

"Mapping of PCS, and PMA variables" does not seem to belong in the PMD clause. Is it really the PCS/PMA? line 20 and table headings refer to PMD, so I'm confused.

SuggestedRemedy

If this is then an error in the title, correct the title.

If the title is correct, then this subclause should be part of clause 101.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Title was change in Comment #3944 which addresses this comment.

Cl **100** *SC* **100.2.1.2** *P* **86** *L* **28** # 4028
Ran, Adee Intel

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

MHz is a measure of frequency. This seems to be a signaling rate, measured in Baud. "speed" is incorrect.

SuggestedRemedy

Change "nominal speed of 204.8 MHz" to "nominal rate of 204.8 MBd".

Correct in other places as necessary.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to "Msps" (million samples per second). Also change in all uses.

Cl **100** *SC* **100.2.1.2** *P* **86** *L* **45** # 4029
Ran, Adee Intel

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

This paragraph and the following one (P89 L1) seems badly phrased and/or punctuated. I can't understand what it says.

Does "channels" refer to OFDM channels?

SuggestedRemedy

Rephrase and punctuate, use concise and well-defined terms.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment #4023

Cl **01** *SC* **1.4** *P* **26** *L* **15** # 4030

Ran, Adee Intel

Comment Type **TR** *Comment Status* **D** *Def of Channel*

I was not aware until now that the term "channel" had such a limited definition in 802.3. This term is used in many places in 802.3 and also has a meaning in communictation engineering that is beyond the definition used here.

These definitions also go into the IEEE standards dictionary so should be precise and unambiguous. Unfortunately clause 11 can only be changed through maintenance.

This is also confusing since "OFDM channel" is also defined and it seems that in some cases (e.g. in 100.2.6.1) "channel" may refer to an OFDM channel. Also in use is "6 MHz channel" which is sometimes "6 MHz band". This inconsistency could result in a lot of more specific comments.

Please use a more specific term in this project instead of re-using this way too overloaded term.

SuggestedRemedy

Add a more specific definition such as "RF channel" or "EPoC channel" and use it instead where necessary.

Make sure that "channel" is always qualified correctly in clause 100, and reconcile usage of "band".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changes from Cl 01 to Cl 00
See related cmt# 4059

The term channel appears 598 times in the draft 319 times it is preceded by "OFDM" and 24 times it is preceded by "OFDMA".

Where appropriate the word "OFDM" or OFDMA" will be added to describe "channel" (for example on pg 62 lines 45-50 in 2 places but not as in line 47 where "MER channel" is used, note there are 13 instance of MER channel, these shall remain as is).

In instances where the term "channel" refers to a wavelength band, as on pg 91 line 6 "the number of equivalent 6 MHz channels" the term "channel(s)" will be replaced with "RF band(s)". Note there are 29 instances of "MHz channels".

In Cl 103 "LLID" will be substituted for "channel" (3x).

All changes due to this comment are at the discretion of the Editors

Cl **00** *SC* **100.2.8.6** *P* **99** *L* **6** # 4035

Andy Gardner linear

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

There are multiple instances of "must" in the draft after the front-matter, the first instance being at line 6 page 99. The IEEE convention is to use "shall" when a specification is mandatory.

SuggestedRemedy

Consider replacing ""must"" with ""shall"".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Clause 00 and the Chief Editor will deal with the other clauses.

Cl **45** *SC* **45.2.7a.2** *P* **59** *L* **5** # 4036

Trowbridge, Steve Alcatel-Lucent

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

Comprise means "includes", so I think is not the right word here since the subcarriers are the signal which is different than the channel

SuggestedRemedy

replace with "the 4096 subcarriers that are transmitted over the OFDM channel"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.3** *P* **60** *L* **6** # 4037

Trowbridge, Steve Alcatel-Lucent

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

Misuse of "comprise"

SuggestedRemedy

replace with "4096 subcarriers that are transmitted over the OFDMA channel". Same issue clause 45.2.7a.4 p61 line 6, clause 45.2.7a.6 p62 line 32, clause 101.4.2.4.5 p174 line 20, clause 101.4.3.4.4 p203 line 5, clause 101.4.3.9.3 p219 lines 24 and 31

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.3** *P* **78** *L* **44** # 4038

Trowbridge, Steve Alcatel-Lucent

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

A few of the boxes in the figure are misaligned. For example, the box around "coax" at line 44 is a few pixels to the left of the MDI box above it.

SuggestedRemedy

Zoom in close and nudge the figure elements so that they line up.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
We do nudge these up and Framemaker cheerfully misaligns at its whim. We will go back and re-nudge to see if it behaves this time.

Cl **100** *SC* **100.1.3** *P* **79** *L* **29** # 4039

Trowbridge, Steve Alcatel-Lucent

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

Several misaligments in this figure: the pilot insertion boxes are all a few pixels to the left of the IFFT boxes below. The pilot insertion 1 and 5 boxes don't align with the edges of the symbol mapper box above. The arror to the right of the Subcarrier Confiuration and bit loading box doesn't go all the way to the box. The boxes around "SCRAMBLER" and "FCP GENERATION" are slightly different heights

SuggestedRemedy

Zoom in close and tidy up the figure by nudging the elements to line up

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
We do nudge these up and Framemaker cheerfully misaligns at its whim. We will go back and re-nudge to see if it behaves this time.

Cl **100** *SC* **100.1.3** *P* **80** *L* **34** # 4040

Trowbridge, Steve Alcatel-Lucent

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

Several misalignments in Figure 100-3. There is a gap between the Pre-equalization and IDFT box and the box below. The arrow below the Staging and Pilot Insertion doesn't go all the way to the box. Several of the corners in the arrow lines either don't join or extend past the intersection point when they go around a 90 degree bend.

SuggestedRemedy

Zoom in close and tidy up the figure by nudging the elements so they line up.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
We do nudge these up and Framemaker cheerfully misaligns at its whim. We will go back and re-nudge to see if it behaves this time.

Cl **100** *SC* **100.1.3** *P* **81** *L* **30** # 4041

Trowbridge, Steve Alcatel-Lucent

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

Similar alignment issues to previous figures: the De-interleaving 1-5 boxes don't line up with the FFT boxes below, and De-interleaving 1 and 5 boxes dont' line up with the symbol mapper box above. The arrow to the right of the Subcarrier configuration and bit loading box doesn't go all the way to the box.

SuggestedRemedy

Zoom in close and tidy up the figure by nudging the elements to line up

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
We do nudge these up and Framemaker cheerfully misaligns at its whim. We will go back and re-nudge to see if it behaves this time.

Cl **100** *SC* **100.1.3** *P* **82** *L* **15** # 4042

Trowbridge, Steve Alcatel-Lucent

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

Similar alignment problems as with previous figures. There is a gap between the 64B/66B decoder box and the FEC decoder box below. The arrow from the Pilot and Marker Pattern box doesn't touch the box. The tiny gap between the OFDM Frame Configuration and Bit Loading box and the Frame Timing box below should be made larger if it was intentional or eliminated if not.

SuggestedRemedy

Zoom in close and tidy up the figure by nudging the elements to line up.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
We do nudge these up and Framemaker cheerfully misaligns at its whim. We will go back and re-nudge to see if it behaves this time.

Cl **100** *SC* **100.2.8.5** *P* **97** *L* **28** # 4043

Trowbridge, Steve Alcatel-Lucent

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

"The following three paragraphs" isn't a good text construct for document maintenance purposes. Also, it is presumably the three paragraphs plus (or including) Table 100-6.

SuggestedRemedy

Put the referenced material in its own subclause and reference it by number

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Draft text rearrangement is being worked on. Draft replacement text will be provided in laubach_3bn_12_0915.pdf.

Cl **101** *SC* **101.1.3** *P* **132** *L* **44** # 4044
Trowbridge, Steve Alcatel-Lucent

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

A few misalinments in Figure 101-1. For exaple, the MDI box at the bottom does't line up with the coax line below.

SuggestedRemedy

Zoom in close and tidy up the figure by nudging the elements to line up.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.3.1.7** *P* **162** *L* **54** # 4045
Trowbridge, Steve Alcatel-Lucent

Comment Type **E** *Comment Status* **D** *EZ, comprised*

Misuse of "comprised"

SuggestedRemedy

Replace "comprised" with "composed"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.2.2** *P* **169** *L* **36** # 4046
Trowbridge, Steve Alcatel-Lucent

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

This time "comprise" is OK, but spurious "of"

SuggestedRemedy

replace "burst may comprise of one or more" with "burst may comprise one or more" (since "comprise" meand "include" in this context)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.6** *P* **175** *L* **48** # 4047
Trowbridge, Steve Alcatel-Lucent

Comment Type **E** *Comment Status* **D** *EZ, comprised*

Misuse of "comprised"

SuggestedRemedy

Replace "comprised" with "composed"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.6.1** *P* **176** *L* **39** # 4048
Trowbridge, Steve Alcatel-Lucent

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

At least one misalignment in Figure 101-18: the box around the "P" (preamble) box to the right of the PHY LINK box is offset slightly higher than the rest of the line

SuggestedRemedy

Zoom in close and nudge the elements to line up and tidy up the figure

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.7** *P* **180** *L* **15** # 4049
Trowbridge, Steve Alcatel-Lucent

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

Some misalignment in Figure 101-19. The arrow down to the lower left XOR crosses slightly over the line above. If the arrows down from the Seed (0x4732BA) box were intended to touch the box, they don't.

SuggestedRemedy

Zoom in close and nudge the elements to line up where intended

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.3.5** *P* **200** *L* **17** # 4050
Trowbridge, Steve Alcatel-Lucent

Comment Type **E** *Comment Status* **D** *EZ, comprised*

Misuse of "comprised"

SuggestedRemedy

Replace "comprised" with "composed"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.1.2** *P* **238** *L* **24** # 4051
Trowbridge, Steve Alcatel-Lucent

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

Misalignments in Figure 102-4. The four "to PMA" instances are all slightly different levels from each other and the arrows down to them are slightly different lengths.

SuggestedRemedy

Zoom in close and nudge the elements of the figure to line up

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.3.5.7** *P* **267** *L* **6** # 4052
Trowbridge, Steve Alcatel-Lucent

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

At least one misalignment in figure 102-18: the arrow looping back into the WAIT state at the top goes beyond the line of the box.

SuggestedRemedy

Zoom in close and nudge the elements as appropriate to line up.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.4.1.4** *P* **269** *L* **45** # 4053
Trowbridge, Steve Alcatel-Lucent

Comment Type **E** *Comment Status* **D** *EZ, comprised*

Misuse of "comprised"

SuggestedRemedy

Replace "comprised" with "composed"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.1.2** *P* **299** *L* **44** # 4054
Trowbridge, Steve Alcatel-Lucent

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

At least one misalignment in Figure 103-2: the MDI box at the bottom is misaligned with the coax box below

SuggestedRemedy

Zoom in close and nudge the elements of the figure to line up

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.4.6** *P* **329** *L* **28** # 4055
Trowbridge, Steve Alcatel-Lucent

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

At least one misalignment in Figure 103-23: the arrow from "BEGIN" doesn't touch the "WAIT" box below

SuggestedRemedy

Zoom in close and nudge the elements of the figure to line up.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.6.2** *P* **342** *L* **42** # 4056

Trowbridge, Steve Alcatel-Lucent

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

At least one misalignment in Figure 103-31: the line down from B0 extends past the horizontal line as the arrow turns to the right.

SuggestedRemedy

Zoom in close and nudge the elements of the figure to line up. Same issue Figure 103-33 on page 344

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

The commenter is encouraged to submit a maintenance request against the soon to be standard (802.3bx) and fix an identical problem in Figure 77-33

Cl **45** *SC* **45.2.1.137** *P* **43** *L* **15** # 4057

Zimmerman, George CME Consulting, Inc.

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

typo - "it not being modifed" should be "is not being modified" - 2 instances, lines 15 and 25

SuggestedRemedy

replace "it" with "is" on lines 15 & 25.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.153** *P* **51** *L* **21** # 4058

Zimmerman, George CME Consulting, Inc.

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

spelling "recieved"

SuggestedRemedy

replace "recieved" with "received"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4.134** *P* **26** *L* **14** # 4059

Zimmerman, George CME Consulting, Inc.

Comment Type **ER** *Comment Status* **D** *Def of Channel*

The generic definition of channel in 802.3 causes no end of pain, as it is a common word used (and tempting to use) in most PHY clauses (where the proper term is usually link segment). The tightening of the current definition to reference 10BROAD36 and Clause 11 is a recent fix to at least make the definition appropriately restricted. It is encouraged not to expand the use of the term "channel" without any modifiers (e.g., OFDM channel should be OK).

Even the use in clause 100 has inconsistent uses of the generic 'channel' and this defined term (e.g., "under baseline channel conditions...."). I highly recommend use a different term for the meaning of 'channel' as a tuned frequency band.

SuggestedRemedy

Replace uses of 'channel' where it means a band of frequencies dedicated to a certain service transmitted on the broadband medium. by not modifying the legacy defition, but inserting and using a new term:
'frequency channel' with the same defnition as currently listed and adding to the definition: "This is identical to the definion of 'channel' used in clause 11 and defined in 1.4.134, but is added to avoid confusion with the common, generic use of the term."

(note -frequency channel would be consistent with what is used in table 45-98c)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See cmt# 4030

Cl **45** *SC* **45.2.1.138.1** *P* **44** *L* **36** # 4060

Zimmerman, George CME Consulting, Inc.

Comment Type **ER** *Comment Status* **D**

What units is the "lowest frequency subcarrier" represented in here? I'm guessing it is meant to be subcarrier number, but given that other references were in Hz denoted as multiples of a 50kHz step, this should be spelled out. Also for US PHY Link Start (45.2.1.139.1).

The pointed to references don't specify either.

SuggestedRemedy

Clarify - if it is subcarrier number, then say it, or better, give the equivalent step size in frequency units (Hz, kHz, etc.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Pg 44 line 35 change
"Bits 1.1911.11:0 set the starting subcarrier of the downstream "
to
"Bits 1.1911.11:0 set the starting subcarrier number of the downstream "

Pg 45 line 9 change:
"Bits 1.1912.11:0 set the starting subcarrier of the upstream"
to
"Bits 1.1912.11:0 set the starting subcarrier number of the upstream"

Cl **56** *SC* **56.1.3** *P* **69** *L* **42** # 4061

Zimmerman, George CME Consulting, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

Editing instruction is "change" - just show changed rows in Table 56-1 - most o f them are unchanged, and it makes it hard to find the edit.
Moreover, it looks like the change is to insert two rows, so the editing instruction should be "insert"

SuggestedRemedy

Change editing instruction to "Insert two rows at the end of Table 56-2, and add footnotes h & i following the existing footnotes"
Only show the two rows for 10GPASS-XR-D and 10GPASS-XR-U, as well as the new footnotes.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Note: P. Anslow has been ok with this however, happy to change..<g>

Cl **56** *SC* **56.1.3** *P* **71** *L* **30** # 4062

Zimmerman, George CME Consulting, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

Editing instruction "change" should be "insert"

SuggestedRemedy

Change editing instruction to "Insert four new columns to the right of the existing columns, and 2 new rows at the end of Table 56-3 (unchanged rows not shown)

Delete unchanged rows from the table.
Show the new rows without underline. (coordinate with IEEE staff whether new column headers should be underlined - that's above my pay grade...)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
As noted with exception of adding only one row at the end, following "10GBASE-PR-U4".
NOTE: the column headers should be cross references to the appropriate clauses.

Cl **45** *SC* **45.2.1.135** *P* **41** *L* **49** # 4063

Zimmerman, George CME Consulting, Inc.

Comment Type **TR** *Comment Status* **D**

Description of register is unclear: "Register 1.1908 indicates the center frequency, in steps of 50 kHz, of subcarrier 0 for the upstream OFDM
channel. Subcarriers are numbered from 0 to 4095 with subcarrier 0 at the lowest frequency. This definition equates to a center frequency from 0 MHz to 3.27675 GHz in 50 kHz steps. The minimum value for this register is 100."

Does this mean the value in the register is the frequency (in Hz) / 50 kHz? How can the minimum value be 100 (assumed decimal) if the register equates from a center frequency from 0 MHz to 3.27675 GHz? Minimum frequency should be 5 MHz then, if I am correct that this register = center frequency (Hz) / 50 000.

SuggestedRemedy

Insert after "in steps of 50 kHz", ", e.g., the value equals the center frequency (Hz) divided by 50 000."

Replace "center frequency from 0 MHz" with "center frequency from 5 MHz".

Editor to search and correct other references (e.g., 100.2.7.3 page 90, line 50) to the start frequency.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed from Cl 45 to Cl 00

Change here and 2x in Cl 100 (Pg 90 lines 41 & 48)
"in steps of 50 kHz" to
"in units of 50 kHz"

Replace "center frequency from 0 MHz" with "center frequency from 5 MHz" here and Cl; 100 Pg 90 line 51.

In Table 45–98c
Change
"first OFDM channel" to
"first downstream OFDM channel" (make a similar in remaining rows)

In Table 45–98e change:
"This specifies the center frequency of subcarrier 0 of the upstream OFDM channel in steps of 50 kHz."
to
"This specifies the center frequency of subcarrier 0 of the upstream OFDM channel"

Cl **45** *SC* **45.2** *P* **31** *L* **31** # 4064

Zimmerman, George CME Consulting, Inc.

Comment Type **TR** *Comment Status* **D** *Cl 45 Device Address*

OFDM is defined as a modulation technique already. It is inappropriate for a device name - it makes no sense if you spell out the acronym as defined. Additionally, you can't tell if the OFDM device is a new sublayer, a type of PMA/PMD or a complete PHY with multiple sublayers. - it isn't in any layering diagram I was able to find. an OFDM framer shows up as a subpart of a PMA in Figure 100-3, but that doesn't seem to fit the bill for a 'device included in package' - that would be handled by the PMA.

SuggestedRemedy

Replace "OFDM" with "OFDM PMA/PMD" (if PMA/PMD is, in fact appropriate, or if something else, e.g., PHY, then add that) on line 31, editor to search and make corresponding replacements (e.g., lines 11&12 page 32)

Additionally, show the device "OFDM PMA/PMD" (or PHY or whatever) in the layering diagrams of clauses 76, 100 and 101, as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed from Cl 45 to Cl 00

In Table 45–1 change
OFDM to
OFDM PMA/PMD

Change:
"45.2.7a OFDM registers" to
"45.2.7a OFDM PMA/PMD registers"

Pg 58 line 5 change:
"OFDM MMD" to
"OFDM PMA/PMD MMD"

In Table 45–211a change
"OFDM registers" to
"OFDM PMA/PMD registers"

In Fig 100-1, 101-1, and 103-2 change (2x)
"PMA (Clause 101)" to
"OFDM PMA (Clause 101)"
and
"XR-type PMD (Clause 100)" to
"OFDM PMD (Clause 100)"

Cl **45** *SC* **45.2.1.6** *P* **35** *L* **3** # 4065

Zimmerman, George CME Consulting, Inc.

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

Editing instruction is "Change", changes are hard to find becausee they are not until the next page - recommend just having the changed entries, rather than the entire table, as other drafts are changing this.

SuggestedRemedy

Just show the changed rows.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove 1st part of table (Bits 1.7.15:10, 1.7.9, .1.7.8 & 1.7.7:6)

Change editing instruction to read:
"Change Table 45–7 as follows (unchanged rows not shown):"

Cl **99** *SC* *P* **8** *L* **13** # 4066

Regev, Alon Ixia

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

On lines 13 & 14, "IEEE P802.3xx Task Force name" should be replaced by "IEEE P802.3bn EPON Protocol over Coax Task Force"

SuggestedRemedy

On lines 13 & 14, change
"IEEE P802.3xx Task Force name"
to
"IEEE P802.3bn EPON Protocol over Coax Task Force"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **99** *SC* *P* **8** *L* **4** # 4067

Regev, Alon Ixia

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

"802.3xx" should be "802.3bn"

SuggestedRemedy

change "802.3xx" to "802.3bn"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **99** *SC* *P* **10** *L* **29** # 4068

Regev, Alon Ixia

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

"802.3xx" should be "802.3bn"

SuggestedRemedy

change "802.3xx" to "802.3bn"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **99** *SC* *P* **3** *L* **4** # 4069

Regev, Alon Ixia

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

EPoC should not be hyphenated at "EP-oC".

Hyphenation should be done between syllables (so if it were otherwise valid, EPoC would be split as E-PoC), and should not be hyphenated such that you end up with only 1 letter at either the beginningn or end of a line (so E-PoC) would not be valid.

Also, EPoC is a proper noun, so it should not be hyphenated.

SuggestedRemedy

Change "EP-oC" to "EPoC" (not hyphenated).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
(Esc n s)

Cl **45** *SC* **45.2.7a.6** *P* **62** *L* **27** # 4070

Regev, Alon Ixia

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

"registers" misspelled as "reggisters"

SuggestedRemedy

change "reggisters" to "registers"

Also fix in Table of Contents

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **99** *SC* **ToC** *P* **15** *L* **5** # 4071
Regev, Alon Ixia

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

On page 15, line 5, leading dots are added inbetween "(1.1951.15:8" and ")" (to read "(1.1951.15:8.....)")

On some of the following lines, the heading naee in the ToC seem to be right aligned rather than left aligned

SuggestedRemedy

Fix ToC

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See cmt# 3976

Cl **101** *SC* **101.6.4.2** *P* **228** *L* **29** # 4072
Regev, Alon Ixia

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

"Transmssion" should be "Transmission"

SuggestedRemedy

Change "Transmssion" to "Transmission"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.3** *P* **78** *L* **16** # 4073
Dwelley, David Linear Technology

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

Missing ")" after "PMA (Clause 101" label

SuggestedRemedy

Change to: "PMA (Clause 101)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.2** *P* **136** *L* **21** # 4074
Dwelley, David Linear Technology

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

Missing space: "excluding the64B/65B sync header"

SuggestedRemedy

Change to: "excluding the 64B/65B sync header"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Wrong clause, correct page and line number. This comment is against 101.3.2.1.2.
Accept as suggest.

Cl **102** *SC* **102.1** *P* **235** *L* **6** # 4075
Dwelley, David Linear Technology

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

Extra apostrophe: "between the CLT PHY and its' subtended CNU"

SuggestedRemedy

Change to: "between the CLT PHY and its subtended CNU"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See Comments #4159 & 4162

Cl **56** *SC* **56.1.2.1** *P* **67** *L* **39** # 4076
Rahman, Saifur Comcast Cable

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

Not sure if this is accurate: nominal bit rate of...up to 10 Gb/s in the upstream direction.

SuggestedRemedy

Align state bit rate stated in clause 100.1 with above by changing 10 Gb/s to 1.6 Gb/s.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Coordinate with comment #3743

Cl **67** *SC* **67.2** *P* **73** *L* **43** # 4077
Rahman, Saifur Comcast Cable

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

Following implies there are example(s) of EPoC topologies in the subclause but was unable to find figure for EPoC.

This subclause also shows some examples of different P2MP
PON and EPoC topologies.

SuggestedRemedy

Add figure and reference or if figure exists refeence to it.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
No figure was supplied by the commenter. (We deleted this figure in prior comments rounds and removed text, but missed removing this sentence.) Delete the sentence: "This subclause also shows some examples of different P2MP PON and EPoC topologies."

Cl **100** *SC* **100.1.3** *P* **77** *L* **43** # 4078
Rahman, Saifur Comcast Cable

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

Clause 103 is not mentioned in the summary description of of the functional layers of EPoC as stated bleow

Clause 100 focuses on functions of the PMD sublayer, Clause 101 focuses on PCS and PMA, and Clause 102 focuses on PHY Link.

SuggestedRemedy

Add describption that Clause 103 is a modified version of MPCP for EPoC

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In subclause title for 100.1.3, change "within" to "supporting". Add separate paragraph following line 44:

"Clause 103 replicates portions of Clause 77 Multipoint MAC Control Protocol (MPCP) with updates necessary for EPoC operation."

Cl **100** *SC* **100.2.6.1** *P* **90** *L* **43** # 4079
Rahman, Saifur Comcast Cable

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

Formula for extended symbol duration does not include the rolloff time.

SuggestedRemedy

Verify defintion of extended symbol does not include roll off time

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
From RF folks: we have verified that the roll off time is not included and intended not be included.

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **35** # 4080
Remein, Duane Huawei Technologies

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

fragment:
can be from 1 to BQ blocks maximum, where BQ is 220, 76, and 12 and FR is 1800, 900, and 280 for 16200,
5940, 1120 LDPC codewords sizes, respectively (see Table 101–2).

SuggestedRemedy

Make part of the previous "Where:"
" BQ is 220, 76, or 12 for FR = 16200, 5940, or 1120, respectively"
" FR is 1800, 900, or 280 for FR = 16200, 5940, or 1120, respectively"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **39** # 4081
Remein, Duane Huawei Technologies

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

Somewhat connfusing:
"All codeword encoding follows the same procedures as the downstream with the following differences:"

Similar issue pg 158 ln 20 with:
"All codeword decoding follows the same procedures as the downstream with the following differences:"

SuggestedRemedy

To:
"All upstream FEC encoding follows the same procedures as the downstream with the following differences:"
and:
"All upstream FEC decoding follows the same procedures as the downstream with the following differences:"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.3.1.1** *P* **157** *L* **51** # 4082
Remein, Duane Huawei Technologies

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

Wording:
"The CLT receiving PCS process receives an upstream burst from a CNU from the PMA Client of a length of R bits."

SuggestedRemedy

to:
"The CLT receives an upstream burst with a length of R bits from a CNU via the PMA Client."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.6** *P* **151** *L* **11** # 4083
Remein, Duane Huawei Technologies

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

wording:
This variable used for counting

SuggestedRemedy

This variable is used for counting
^^

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.3.1.3** *P* **160** *L* **16** # 4084
Remein, Duane Huawei Technologies

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

formating of "Extract BQ 65B Blocks"

SuggestedRemedy

subscript the "Q"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.3.1.7** *P* **162** *L* **49** # 4085
Remein, Duane Huawei Technologies

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

double double ref ref "per Table 101–2 or Table 101–2)"

SuggestedRemedy

remove one ref

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.1** *P* **168** *L* **17** # 4086
Remein, Duane Huawei Technologies

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

The two para's beginning with "In the EPoC OFDM link the modulation or each subcarrier ..." duplicates the descriptionin the 1st two para of this section

SuggestedRemedy

Strike the two para's from line 17-24

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.1** *P* **168** *L* **31** # 4087
Remein, Duane Huawei Technologies

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

"was just update by the above actions ..."

SuggestedRemedy

Change to
"was just updated by the above actions ..."
^

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.3.1** *P* **170** *L* **16** # 4088
Remein, Duane Huawei Technologies

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

"been prepared for by the"

SuggestedRemedy

Change to:
"been prepared by the"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.11.1** *P* **191** *L* **45** # 4089
Remein, Duane Huawei Technologies

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

Stray period and space before ref, none after:
"See . 100.2.7.3"

SuggestedRemedy

-> "See 100.2.7.3."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.3.2** *P* **199** *L* **36** # 4090
Remein, Duane Huawei Technologies

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

As a clarification add to 101.4.3.3.2 & 101.4.3.3.4
"No MAC data is transmitted during the burst marker."

SuggestedRemedy

per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.4.5** *P* **203** *L* **26** # 4091
Remein, Duane Huawei Technologies

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

Stray variables section

SuggestedRemedy

Remove

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Do last to keep numbering consistent with comments

Cl **101** *SC* **101.4.3.5.1** *P* **204** *L* **16** # 4092
Remein, Duane Huawei Technologies

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

Wording (tense) in FIRST description
"... otherwise the bit receive from the processed ..."

And on line 21 in FRB:
"... values if from ..."

Also on line 38 in IRB
"... values if from ..."

Also on line 43 in IRE
"... values if from ..."

Line 48 in LBIT
undefined TLA "RE"

SuggestedRemedy

-> "... otherwise the bit from the processed ..."

-> "... values is from ..."

"RE" -> "resource element"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Task Force to check description of FIRST line 15 for clarity

Cl **101** *SC* **101.4.2.2** *P* **171** *L* **52** # 4093
Remein, Duane Huawei Technologies

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

Table 101-7 does not relate to the CLT Master Clock
"the 10.24 MHz CLT Master Clock (Table 101–7)"

SuggestedRemedy

Remove the ref to Table 101-7.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.5** *P* **175** *L* **6** # 4094
Remein, Duane Huawei Technologies

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

This sentence could use a ref to Fig 102-12
"The Timestamp marks the first subcarrier of the first symbol after the Preamble."

SuggestedRemedy

Add ref. to end of sentence "(see Figure 102-12)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* *P* **177** *L* **13** # 4095
Remein, Duane Huawei Technologies

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

"on a excluded"

SuggestedRemedy

Change to
"on an excluded"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.8.1** *P* **180** *L* **36** # 4096
Remein, Duane Huawei Technologies

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

Several links not correct and/or live
ln 36: 101.4.3.6.4 should be 101.4.2.7.
ln 37: 101.4.3.6.x should be ???
ln 40: 101.4.2.1 should be 101.3.2.5.6

SuggestedRemedy

Make links live with correct SCI number per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Ref @ line 37 s/b to 101.4.2.8.7

Cl **101** *SC* **101.4.2.8.3** *P* **183** *L* **36** # 4097

Remein, Duane Huawei Technologies

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

The TLA LLR only appears twice in the draft once where it is defined and once where is it used 7 lines later. A quick google search indicates this should be "log-likelihood ratios" without caps and only one hyphen.

SuggestedRemedy

Remove the TLA definition and replace it in line 44 with "log-likelihood ratios".
At lin 36 change "Log-Likelihood-Ratios" to "log-likelihood ratios"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.9.2** *P* **185** *L* **41** # 4098

Remein, Duane Huawei Technologies

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

Verb tense "If NI were not divisible ... branches would not be filled."

SuggestedRemedy

Change to "If NI is not divisible ... branches are not filled."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.1** *P* **135** *L* **30** # 4099

Remein, Duane Huawei Technologies

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

FEC-OSize does not just include parity but also includes the CRC40:
"The number of 72-bit vectors constituting the parity (overhead) portion of a FEC codeword."

SuggestedRemedy

Change to:
"The number of 72-bit vectors constituting the overhead (parity and CRC40) portion of a FEC codeword."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **16** # 4100

Remein, Duane Huawei Technologies

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

The para beginning "The 64B/66B Encoder ..." should either be moved to 101.3.2.2 64B/66B Encoder or stricken as it has little to do with LDPC encoding. The only pertenant sentence is the one regarding burst time header that is burried in the middle of this para and incorrectly talks about the CLT.

SuggestedRemedy

Add a period after "Table 101-2" in the 1st para of this section.

Replace the 2nd para with "The 64B/66B Encoder, as described in 101.3.2.2 and shown in Figure 101-6, delivers a stream of 65-bit blocks to the FEC Encoder and Data Detector. In the CNU only, a 65-bit burst time header is added as the first 65-bit block at the start of a burst (see Figure 101-10)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Note that the 64B/66B encoder is well described in 101.3.2.2.

Cl **101** *SC* **101.3.2.5.6** *P* **149** *L* **17** # 4101

Remein, Duane Huawei Technologies

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

BP & BQ are not for downstream only.

SuggestedRemedy

at line 17 & 23 strike
"downstream " from
"payload portion of the downstream FEC codeword" so it reads:
payload portion of the FEC codeword"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.6** *P* **149** *L* **47** # 4102
Remein, Duane Huawei Technologies

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

What is "CP" in dataParity<FR-1+CP:0>
Should this be BP?

SuggestedRemedy

Change to BP

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

*** Task Force to confirm. ***

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **23** # 4103
Remein, Duane Huawei Technologies

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

A 65-bit block cannot have a sync header of 10 as there is only one sync bit in a 65-bit block.

SuggestedRemedy

Per Figure 101-6 this should be bit 1 (of bits 0 & 1) and per Figure 49-7 this should be a 0 for control blocks
Change:
"sync header 10 (binary)." to
"sync header 0 (binary)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

*** Task Force to confirm. ***

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **35** # 4104
Remein, Duane Huawei Technologies

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

TRUE, but when is it set to false I wonder.

SuggestedRemedy

add "This variable is reset to FALSE upon read." at end of dewscription

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See Cmt # 4105

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **32** # 4105
Remein, Duane Huawei Technologies

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

PMA_CLK is defined twice with two different meanings.

SuggestedRemedy

Change
PMA_CLK to PMA_TCLK at pg 150 ln 32 and pg 157 ln 26 (2x)
PMA_CLK to PMA_RCLK at pg 162 ln 16 and pg 163 ln 35 (2x)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change definition at pg 150 ln 32 to read:
In the CLT this Boolean is to TRUE on every negative edge of a clock that is synchronized to the PMA_UNITDATA.request (see 101.4.1.2.1) data rate of DS_DataRate (see 100.2.6.1).
In the CNU this Boolean is to TRUE on every negative edge of a clock that is synchronized to the PMA_UNITDATA.indication (see 101.4.1.3) data rate of US_DataRate (see 101.4.1.2.1).
This variable is set to FALSE upon read.

Change definiton at 162 line 16 to read:
"See 101.3.2.5.6."

Cl **101** *SC* **101.4.1.1.1** *P* **168** *L* **38** # 4106
Remein, Duane Huawei Technologies

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

Definitions of these variables need some minor adjustments

SuggestedRemedy

Change DS_CpyInP and US_CpyInP description from:
"This variable indicates ..." to
"When set to a one his variable indicates ..."

Add to DS_PrflCpy and US_PrflCpy description:
"This variable is set to zero by the PHY upon completion of the profile copy."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.1** *P* **170** *L* **43** # 4107
Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Clock Terminology*

There is no "sampling rate clock" in Table 101–7

SuggestedRemedy

Change from:
"All OFDM channels use the same sampling rate clock as per Table 101–7, cyclic prefix size, window size, and follow the same frame timing."
to:
"All OFDM channels use the same OFDM symbol clock, cyclic prefix size, window size, and follow the same frame timing."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **258** *L* **10** # 4108
Remein, Duane Huawei Technologies

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

OFDM clock (1/204.8) is a bit too slow

Same/similar issue at:
Pg 99 ln 37 (figure 100-6)
Pg 171 ln 38 (Table 101-7, 2x)
Pg 159 ln 23

SuggestedRemedy

Change to OFDM clock (1/204.8 MHz)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.10** *P* **190** *L* **44** # 4109
Remein, Duane Huawei Technologies

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

Elsewhere in this section we refer to the output of the SR as Wk in Figure 101-26 it is W1. We should be consistent.

SuggestedRemedy

Change W1 to Wk in Fig 101-26 as in the text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.3** *P* **198** *L* **15** # 4110
Remein, Duane Huawei Technologies

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

There is no statemachine as implied in this statement:
"The state machine of Framing Timing implemented the RB Superframe structure timing as per 101.4.3.3.1."

SuggestedRemedy

Strike the sentence, the topic is well covered in subsequent SCI's.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.3.5** *P* **200** *L* **36** # 4111
Remein, Duane Huawei Technologies

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

"through RBsize for each RB Frame" but RBsize is a boolean!

SuggestedRemedy

Change to read:
"through RBlen(RBsize) for each RB Frame"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.5.2** *P* **206** *L* **17** # 4112
Remein, Duane Huawei Technologies

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

Previously we decided that only the US_ModTypeSC(n)/DS_ModTypeSC(n):
"based on the profile descriptor information"

SuggestedRemedy

strike "profile" to the statement reads:
"based on the descriptor information"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.2** *P* **172** *L* **9** # 4113

Remein, Duane Huawei Technologies

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

This statement "Downstream channel acquisition time for the CNU is defined as the time required for a CNU with no previous
network frequency plan knowledge to achieve downstream signal acquisition (frequency and time lock)." should be restricted to time when only a single CNU is joining the network.

SuggestedRemedy

Change:
"time required for a CNU with no previous ..." to
"time required for a single CNU with no previous ..."

Page 172, line 10. Add "(see Table 101-7)" to the end of the last sentence in the paragraph.
Page 171, line 46, Add the following table footnote "b" to the " < 60 seconds" that reads "Nonetheless, it is expected that the CNU would be able to achieve downstream acquisition in less than 30 seconds. "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.3** *P* **172** *L* **44** # 4114

Remein, Duane Huawei Technologies

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

Why does this equation not include a factor for the windowing?

SuggestedRemedy

Include a windowing factor (DSNrp)

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The windowing is eaten by the next CP.

Cl **101** *SC* **101.4.2.4.3** *P* **173** *L* **47** # 4115

Remein, Duane Huawei Technologies

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

This is an improper use of the term "encompassed spectrum" as encompassed spectrum is defined as:
"The encompassed spectrum is the difference between the center frequency of the highest frequency active subcarrier of the highest frequency OFDM channel and the lowest frequency active subcarrier of the lowest frequency OFDM channel, plus the subcarrier spacing (all expressed in MHz)."
Thus the two 1 MHz guard bands cannt be considered part of the encompassed spectrum.

SuggestedRemedy

Change 24 MHz to 22 MHz so this statement agrees with Table 100-3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.4.4** *P* **174** *L* **1** # 4116

Remein, Duane Huawei Technologies

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

This statement regarding exclusion band limits only applies to excluded SC within the encompassed spectrum.
"Exclusion bands are limited to 20% or less of encompassed spectrum (see Table 101–8)."

SuggestedRemedy

Change to:
"Exclusion bands internal to the encompassed spectrum are limited to 20% or less of encompassed spectrum (see Table 101–8)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.161.4** *P* **54** *L* **38** # 4117

Remein, Duane Huawei Technologies

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

Register bits 1.1948.4:0 can be better aligned with the definition of DS_ModAbility.

SuggestedRemedy

In Table 45-98ae combine 1.1948.4 thru 1.1948.0 into a single entry
1.1948.4:0 | DS modulation ability | Indicates the PHYs ability to support optional downstream modulation types | RO

Combine SCl 45.2.1.161.4 thru 45.2.1.161.8 into a single sub clause to read:
45.2.1.161.4 DS modulation ability (1.1948.4:0)
Bits 1.1948.4:0 indicate the ability of the PHY to support optional downstream modulation formats 16384-QAM, 8192-QAM, 32-QAM, 16-QAM and 8-QAM. This bit is a reflection of the variable DS_ModAbility defined in 101.4.2.4.5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.161.1** *P* **53** *L* **38** # 4118

Remein, Duane Huawei Technologies

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

Register bits 1.1948.9:8 can be better aligned with the definition of US_ModAbility.

SuggestedRemedy

In Table 45-98ae combine 1.1948.9 and 1.1948.8 into a single entry
1.1948.9:8 | US modulation ability | Indicates the PHYs ability to support optional upstream modulation types | RO

Combine SCl 45.2.1.161.1 and 45.2.1.161.2 into a single sub clause to read:
45.2.1.161.1 US modulation ability (1.1948.9:8)
Bits 1.1948.9:8 indicate the ability of the PHY to support optional upstream modulation formats 4096-QAM and 2048-QAM. This bit is a reflection of the variable US_ModAbility defined in 101.4.3.4.4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.6.4** *P* **179** *L* **32** # 4119

Remein, Duane Huawei Technologies

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

Clarify which value of NCP is being refered to:
"decrementing the value of NPC by one"

SuggestedRemedy

Change to:
"decrementing the initial value of NPC by one"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Perhaps this step will require reiteration. Therefore leave as is.

Cl **101** *SC* **101.4.2.8.1** *P* **180** *L* **36** # 4120

Remein, Duane Huawei Technologies

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

The following counter freferences shold use named counters
line 36 "setting an bit counter to 1"
line 41 "the FCP bit counter is incremented"
line 46 "the bit counter is reset"

Note at pg 183 line 49 is a sttement "The Symbol Mapper
resets the bit counter, FCPbitCnt, at the start of each downstream frame ..." which could be interperated as resetting to zero, this should be clarified.

Note also that if each of these refers to the same counter there is a conflict between pg 180 ln 36 and pg 184 ln 24

SuggestedRemedy

Pg 180 Line 36 change:
"setting an bit counter to 1" to
"setting FCP bit counter (FCPbitCnt) to 1"

Pg 180 Line 41 change:
"the FCP bit counter is incremented" to
"the FCPbitCnt is incremented"

Pg 184 line 49 change:
"resets the bit counter, FCPbitCnt, at the start ..." to
"resets the bit counter, FCPbitCnt, to zero at the start ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.9.3** *P* **186** *L* **24** # 4121
Remein, Duane Huawei Technologies

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

We have no "Figure 4"

SuggestedRemedy

Change to: "Figure 101-23", make live

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.9.3** *P* **188** *L* **41** # 4122
Remein, Duane Huawei Technologies

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

I believe there are one too many g2's in Figure 101-23

SuggestedRemedy

Change the rightmost to g1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.2** *P* **145** *L* **30** # 4123
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

IF the LDPC endode process is occurring in the CNU the FP bits here may not be 14400-60 as stated:
"a payload length of FP - BP bits (14400 - 60 = 14340 bits)."
nor
"output codeword with a length of (FP - BP) + FR bits; i.e., (14400 - 60) + 1800 = 16140 bits."

SuggestedRemedy

Remove all specific numbers to the two statements read:
"a payload length of FP - BP bits."
nor
"output codeword with a length of (FP - BP) + FR bits."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.11** *P* **191** *L* **39** # 4124
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

This seems like an odd place for a requirement on SC indexing. Also this requiremnt is not reflected in PICS.

SuggestedRemedy

Strike the para in 101.4.2.11

Add to 1st para of 101.4.2.4
The CLT ensures that the downstream encompassed spectrum of a 192 MHz OFDM channel does not exceed 190 MHz (3800 active subcarriers, see Table 100-3. These 3800 maximum active subcarriers occupy the range 148 <= k <= 3947 per Table 101-8, where k is the spectral index of the subcarrier in Equation (101-23).

Add to 1st para of 101.4.3.4
The CLT ensures that the upstream encompassed spectrum of a 192 MHz OFDM channel does not exceed 190 MHz (3800 active subcarriers, see Table 100-11. These 3800 maximum active subcarriers occupy the range 148 <= k <= 3947 per Table 101-13, where k is the spectral index of the subcarrier in Equation (101-23).

Add to Tables 101-8 & 101-13 (bot required in PICS)
Minimum active subcarrier index | 148 | |
Maximum active subcarrier index | 3947 | |

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.13** *P* **196** *L* **31** # 4125
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

The statement indicate that Table 101-12 is required but there is no normative statement:
"Table 101–12 enumerates multiple OFDM channel operational requirements"

SuggestedRemedy

Change the statement to read:
"The 10GPASS-PX PHY shall comply with the OFDM channel operational requirements in Table 101–12"

Add PICS statement after OT1 Downstream Synchronization:
OC2 | DS OFDM Channels | 101.4.2.13 | Conform to requirements of Table 101-12 | CLT:M | Yes[] No[]
Renumber PICS as needed.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.2.3** *P* **198** *L* **8** # 4126
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Incomplete sentance:
"OFDMA clock timing error relative to the CLT master clock as measured at the CLT within ± 10 ns in each burst measured within any 35 second measurement period."

Note that PICS statement OT9 coorelates to this statement.

SuggestedRemedy

I believe this should be a requirement. Change the statement to read:
"OFDMA ... measured at the CLT shall be within ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.3.5** *P* **200** *L* **32** # 4127
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

It does not appear that RB_Frame_start is used anywhere. It is defined here, set/reset in Figi 101-29 but not used in any decission.

SuggestedRemedy

Remove the unused variable.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Impacts 101.4.3.3.5 & Fig 101-29 (3x)

Cl **101** *SC* **101.4.3.5.2** *P* **206** *L* **15** # 4128
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Missing Fig ref "See Figure 101.x.x.x."
This process "FILL_PROCESS" does not appear to be used anywhere in the draft

The same appears to be true for "Stage_RB_Frame" at pg 207 ln 51

SuggestedRemedy

Remove both definitions

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.5.2** *P* **206** *L* **20** # 4129
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

Figure 101–31 appears to begin and end a burst with Map_Start_Marker and Map_End_Marker, resp. However these functions don't make any mention of the required Type 2 Pilot that is to be added before and after the burst markers (see 101.4.3.3.2 & 101.4.3.3.4 pg 1299)

Updated burst markers no longer require Type 2 pilots before/after surst.

SuggestedRemedy

remove 101.4.3.3.2 and 101.4.3.3.4

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.6.4** *P* **178** *L* **19** # 4130
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D**

This requirement is somewhat questionable. If we indeed require that the 8 steps starting at line 38 are required they will need sdditional clarification. For example what is the defininition of "Known regions of interference" in Step 1, "avoiding subcarrier locations impacted by interferences like CSO/CTB" in step 5 and "perturbation of continuous pilot locations using a suitable algorithm" in Step 7. This is really a limitation of the performance of the CLT and should be open to implementation differentiation.
Allso the statement at line 22 is redundant with the previous para and we never clearly state the NPC is the number of contineous pilots.

SuggestedRemedy

Change at line 19-22 from:
"The CLT shall place continuous pilots (excluding the eight continuous pilots around the PHY Link) per the 8 Steps below after calculating a value for NPC using Equation (101–8).
The CLT obtains the value of NPC using the following formula:"
to:
"The CLT places continuous pilots (excluding the eight continuous pilots around the PHY Link) per the 8 Steps below after calculating an initial value for the number of Continuous pilots (NPC) using Equation (101–8)."

Change the statement at line 23 from:
"The number of continuous pilots is between 16 and 128. This range includes the eight continuous pilots around the PHY Link channel."
to:
"The number of continuous pilots shall be between 16 and 128. This range includes the eight continuous pilots around the PHY Link channel."

Update PICS entry PI3 from:
"Continuous Pilot placement | | Meets the Equation (101–8) and the eight steps given in 101.4.2.6.4"
to:
"Number of Continuous Pilots | | Between 16 and 128 including the 8 defined for the PHY Link"
"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.1.2** *P* **127** *L* **29** # 4131
Remein, Duane Huawei Technologies

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

Mnemonics introduced without full meaning:
"The operation of EPoC MPCP, as ..."

SuggestedRemedy

Change to
ln 29 "The operation of EPoC Multipoint Control Protocol (MPCP), as ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.1** *P* **135** *L* **38** # 4132
Remein, Duane Huawei Technologies

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

Wording:
"... removes PHY_OSize vectors per every PHY_DSize vectors to the compensation of FEC overhead and PMD derating process."

Formating teh following should be italics:
ln 31 FEC_OSize
ln 32 PHY_DSize
ln 37 PHY_OSize
ln 39 PHY_DSize

SuggestedRemedy

Change to:
"... removes PHY_OSize vectors per every PHY_DSize vectors to compensate for FEC overhead and PMD derating processes."

Format changes per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.5** *P* **140** *L* **44** # 4133
Remein, Duane Huawei Technologies

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

countDelete should be in 101.3.2.1.3 Counters not 101.3.2.1.2 Variables

SuggestedRemedy

Move per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.4** *P* **141** *L* **40** # 4134
Remein, Duane Huawei Technologies

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

"The 10GPASS-XR encodes"
Also pg 142 line 2 "PCS operating on CCDN"

Similar problem pg 157 ling 44 for "The 10GPASS-XR decodes" and "PCS operating on CCDN" (2x)

SuggestedRemedy

change to
"The 10GPASS-XR PHY encodes" &
"The 10GPASS-XR PHY decodes" &
"PCS operating on a CCDN"
___^___

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.4** *P* **148** *L* **27** # 4135
Remein, Duane Huawei Technologies

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

Wording
"Every codeword in the burst has a length of determined by the number B of 65-bit blocks encoded:"

SuggestedRemedy

to
Every codeword in the burst has a length determined by the of encoded 65-bit blocks, B, as illustrated in Equation 101-##."
add ref to eq at line 29

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to:
"Every codeword in the burst has a length, determined by the number of encoded 65-bit blocks, B, as illustrated in Equation 101-##."

Change style of Equation at line 29 to include number.

Cl **100** *SC* **100.2.12.2.1** *P* **113** *L* **50** # 4154
Dawe, Piers Mellanox

Comment Type **TR** *Comment Status* **D**

"less than or equal that shown in when"

SuggestedRemedy

Shown in what?
Editorial: "less than or equal to that"?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Fixed in 3930

Cl **99** *SC* **99** *P* **8** *L* **4** # 4155
Dawe, Piers Mellanox

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

P802.3xx

SuggestedRemedy

P802.3bn, three times on this page. Several other instances of 802.3xx should be changed too.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **100.1.1** *P* **77** *L* **16** # 4156
Dawe, Piers Mellanox

Comment Type **E** *Comment Status* **D** *EZ, comprised*

"is comprised of" is considered poor English and has been replaced with "is composed of" in the frontmatter. I would think the same point applies here. Also, does a topology contain or comprise these components, or is it an abstraction of their arrangement?

SuggestedRemedy

Change "topology comprised of passive segments" to e.g.
topology composed of passive segments
topology comprising passive segments
topology comsisting of passive segments
topology containing passive segments or
topology built of passive segments
topology implemented with passive segments

Scrub the other five "comprised of" in the draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Change to Clause 00.

Cl **102** *SC* **102.5.2.2** *P* **287** *L* **34** # 4157
Dawe, Piers Mellanox

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

2012

SuggestedRemedy

201x 6 or more instances.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Clause was listed as 105 Editor changed to 102

Cl **00** *SC* **0** *P* **13** *L* **0** # 4158
Dawe, Piers Mellanox

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

Some headers say "IEEE Std 802.3-2012" while others say "IEEE Std 802.3-201x"

SuggestedRemedy

Fix

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change all to IEEE Std 802.3-2015

Cl **102** *SC* **102.1** *P* **235** *L* **5** # 4159
Dawe, Piers Mellanox

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

its'

SuggestedRemedy

Remove the '

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101** *P* **127** *L* **1** # 4160
Dawe, Piers Mellanox

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

This clause is unusually long (over 100 pages) and, very unusually, defines multiple brand-new sublayers in one clause. The subclauses may get nested too deep.

SuggestedRemedy

Consider if it should be broken into two clauses.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Clause heading levels are aligned with the 802.3 template and only go to level 5 (as perscribed). The clause topics are consistent with previous clauses (e.g., Cl 65 & 76). Clause 55 has a comperable length (124 pg).
Adding another clause at this point would disrupt numerous other projects and is not recommended.

Cl **101** *SC* **101** *P* **127** *L* **24** # 4161
Dawe, Piers Mellanox

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

ts

SuggestedRemedy

its

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.1** *P* **235** *L* **5** # 4162
Dawe, Piers Mellanox

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

What to you mean by "subtend"? You haven't defined it, and here's what M-W online says:
1
a : to be opposite to and extend from one side to the other of <a hypotenuse subtends a right angle>
b : to fix the angular extent of with respect to a fixed point or object taken as the vertex <a central angle subtended by an arc> <the angle subtended at the eye by an object of given width and a fixed distance away>
c : to determine the measure of by marking off the endpoints of <a chord subtends an arc>
2
a : to underlie so as to include
b : to occupy an adjacent and usually lower position to and often so as to embrace or enclose <a bract that subtends a flower>

SuggestedRemedy

Use a more normal word. Link partner? connected? subordinate?
Also in two other places in the draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Subordinate

Cl **101** *SC* **101.4.1.3** *P* **170** *L* **7** # 4163
Dawe, Piers Mellanox

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

101.4.1.2 PMA Service Interface and 101.4.1.3 PMA_UNITDATA.indication should be at the same level in the hierarchy.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Do this late in the editing cycle.
Move 101.4.1.2 PMA Service Interface up one level to 101.4.2.
Promote 101.4.1.2.1 PMA_UNITDATA.request and all it's subtended clauses one level
Subtend 101.4.1.3 PMA_UNITDATA.indication from new 101.4.2 making it 101.4.2.2

Renumber accordingly

Cl **101** *SC* **101.4.1.3.3** *P* **170** *L* **32** # 4164
Dawe, Piers Mellanox

Comment Type **ER** *Comment Status* **D**

"The effect of receipt of this primitive by the client is unspecified by the PMA sublayer": standards that don't specify the client do this, 802.3 doesn't have to annoy the reader in this way.

SuggestedRemedy

You know what the client is, 101.4.1.2 says it's the PCS. Replace the offending sentence with a reference to the appropriate place in the PCS subclause.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to:
"The effect of receipt of this primitive by the client is specfied in 101.3.3."

Cl **100** *SC* **100** *P* **77** *L* **1** # 4165
Dawe, Piers Mellanox

Comment Type **ER** *Comment Status* **D**

802.3 orders the clauses down the stack of sublayers, not up.

SuggestedRemedy

Swap clauses 100, PMD, and 101, RS/PCS/PMA.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
There is precedence in prior EFM: Clause 60 "PMD" is before Clause 65 "RS, PCS, PMA 1000BASE-X" and Clause 75 "PMD 10GBASE-PR/PRX " is before Clause 76 "RS/ PCS, PMA 10G-EPON".

Cl **56** *SC* **56.1.3** *P* **69** *L* **1** # 4166
Dawe, Piers Mellanox

Comment Type **ER** *Comment Status* **D**

Somewhere you need to confess that the frame loss ratio isn't up to Ethernet's usual standards (isn't EPON at 1e-12?).

SuggestedRemedy

Here?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This is already specified in the leading paragraph for both 100.2.10.2 and 100.2.12.2.
Also see comment #xxxx.

We can ask the TF is they would like to add a sentence with cross references to the above two subclauses.

Cl **100** *SC* **100.2.10.2** *P* **111** *L* **17** # 4167

Dawe, Piers Mellanox

Comment Type **TR** *Comment Status* **D**

If the FLR for 1500-byte frames is 1e-6, it could be higher or lower for larger or smaller frames depending on the relative size of the frame and the FEC block. On the one hand: Ethernet's maximum frame size was changed from 1500 bytes to 2000 bytes some years ago. On the other: a single lost FEC frame could take out several frames (more of an issue in the downstream direction, I think), so the number of lost frames per hour may be quite poor. This is why other projects specify minimum-length frames for the FLR calculation.

SuggestedRemedy

Ensure that satisfactory performance is obtained with short frames and long frames, not just 1500-byte frames.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
From Rich Prodan: There is adequate margin in Table 100-13 and Table 100-15 to guarantee performance for all Ethernet frame sizes from 64 to 2000 bytes.

Minimum length frames were considered in the studies as summarized in: http://www.ieee802.org/3/bn/public/jul13/prodan_3bn_01b_0713.pdf presented in July 2013. The section on AWGN performance is relative to the two tables. MTTFPA with minimum size packets is detailed in http://www.ieee802.org/3/bn/public/sep13/prodan_3bn_02a_0913.pdf. The September 2013 presentation calculates 26 minimum size 64 byte Ethernet frames per long size codeword. The frame loss ratio is therefore 26 times the FEC word error ratio (WER). The minimum CNR for all constellation orders in the above tables have from 3 to 6 dB of margin from the required 10-6 WER. As seen in the July 2013 presentation, this much margin provides many orders of magnitude lower WER well beyond 26 times 10-6.

A similar situation applies to a maximum 2000 byte Ethernet frame spanning multiple short size codewords. A 2000 byte frame plus 8 byte header occupies 251 65-bit line encoded blocks (with 64 bits of payload per block).The short codewords contain 800 payload bits plus 40 CRC bits that can carry 12 65-bit line encoded blocks each. So 21 short codewords can contain the 221 line encoded blocks of the 2000 byte frame. In this case, the 3 to 6 dB margin again provides many orders of magnitude lower WER well beyond 21 times 10-6.

The cable industry to date has typically worked with 1500 byte packets in its performance specifications and we used what they expect. For 2000 byte versus 1500 byte packets, there will be no issues as just explained. Text in the two areas will be modified as follows:

Page 111, Line 17, Change "The required level for CLT upstream post-FEC error ratio is defined for AWGN as less than or equal to 10-6 frame loss ratio with 1500 byte Ethernet MAC packets" to "The required level for CLT upstream post-FEC error ratio is defined for AWGN as less than or equal to 10-6 frame loss ratio both with minimum (64-byte) and maximum size (2000-byte) Ethernet frames."

Page 113, Line 42, Change 'The required level for CNU downstream post-FEC error ratio shall be less than or equal to 10-6 frame loss ratio when operating at a CNR as shown in Table 100-15, under input load and channel conditions as follows with 1500 byte Ethernet packets." to "The required level for CNU downstream post-FEC error ratio shall be less than or equal to 10-6 frame loss ratio when operating at a CNR as shown in Table 100-15, under input load and channel conditions as follows with both minimum and maximum size Ethernet frames."

Cl **103** *SC* *P* *L* # 4168
Dawe, Piers Mellanox

Comment Type **TR** *Comment Status* **D**

PAR says:
It also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as MultiPoint Control Protocol (MPCP)...

5C says:
EPoC will reuse the MAC Control and OAM as defined in the current IEEE Std 802.3 for EPON, with minimal augmentation if necessary, while developing new PHY specifications.

Objectives say:
Maintain compatibility with 1G-EPON and 10G-EPON, as currently defined in IEEE Std. 802.3 with minimal augmentation to MPCP and/or OAM if needed to support the new PHY.

Yet I see a whole new clause 103 that defines another MPMC from the ground up. That's not what the project promised.

SuggestedRemedy

Combine clauses 77 and 103. Use technology-neutral variable names rather than names like "laserOffTime" and "fecOffsetC".

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The Task Force believes the addition of Cl 103 is consistent the projects PAR, 5C & objectives as quoted by the commenter and with previous EPON project deliverables whose PAR, 5C and Objectives included similar wording to create a standalone clause for MPCP.

Vote:
For (keep Cl 103):
Against (combine 103 & 77):
Abstain:

P802.3ah created Cl 64. Multipoint MAC Control
PAR Scope: Define 802.3 Media Access Control (MAC) parameters and minimal augmentation of the MAC operation, physical layer
specifications, and management parameters for the transfer of 802.3 format frames in subscriber access networks at operating speeds within the scope of the current IEEE Std 802.3 and approved new projects
Technical Feasibility: "… The proposed project will, to the extent possible, re-use specifications developed by
other standards bodies and develop new specifications in accordance with the rigorous standards of proof applied to 802.3 projects. …"
Objectives:
"Support subscriber access network topologies:
- Point to multipoint on optical fiber …"
Provide a family of physical layer specifications:
- …
- PHY for PON, >= 10km, 1000Mbps, single SM fiber, >= 1:16,
- PHY for PON, >= 20km, 1000Mbps, single SM fiber, >= 1:16
- …"

P802.3av created Cl 77. Multipoint MAC Control for 10G–EPON
PAR Scope: The scope of this project is to amend IEEE Std 802.3 to add physical layer specifications and management parameters for symmetric and/or asymmetric operation at 10 Gb/s on point-to-multipoint passive optical networks.
Vote:
For (keep Cl 103):
Against (combine 103 & 77):
Abstain:

Technical Feasibility: "… This project reuses the Ethernet point-to-multipoint and point-to-point technologies that
proved to be stable and credible. The project will extend burst mode technology to 10Gb/s. …"
Objectives:
"Support subscriber access networks using point to multipoint topologies on optical fiber …
Provide physical layer specifications:
– PHY for PON, 10 Gbps downstream/1 Gbps upstream, single SM fiber
– PHY for PON, 10 Gbps downstream/10 Gbps upstream, single SM fiber

Cl **101** *SC* **101.2** *P* **133** *L* **1** # 4169
Dawe, Piers Mellanox

Comment Type **TR** *Comment Status* **D**

Is this the same as the Cl.76 10GEPON RS? It should be.

SuggestedRemedy

Don't create yet another RS type, re-use the 10GEPON RS.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
By and large this is the same as the 10G-EPON RS described in Cl 76. However there are some significant differences. For example the registration process is described in 103.3.3 not Cl 77 (see pg 133 line 18). You will notice that this subclause is quite short as it consits mostly of reference3s to previous work. The task forece believe it is close to minimum size.

Should the commenter wish to make more specific suggestions for triming they will be considered.

Passed by voice without opposition
For (reject):
Against (change variable name):
Abstain:

Cl **101** *SC* **101.4.1** *P* **168** *L* **4** # 4170
Dawe, Piers Mellanox

Comment Type **TR** *Comment Status* **D**

PMA overview section is empty.

SuggestedRemedy

Needs a few paragraphs telling the reader what this PMA does, as we have for 101.3.1, overview for PCS.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add:
"This subclause defines the Physical Media Attachement (PMA) for 10GPASS-XR, supporting operation over the point-to-multipoint coaxial medium architecture. The 10GPASS-XR PMA is specified to support the operation of up to 10 Gb/s in the downstream direction and up to
*** 10 Gb/s ***
in the upstream direction, where the upstream and downstream data rates are configured independently.
Figure 101–1 shows the relationship between the 10GPASS-XR PMA sublayer and the ISO/IEC OSI reference model. Figure 100–2 illustrates the CLT transmitter functional block diagram, including the PMA, while Figure 100–3 illustrates the CNU transmitter functional block diagram. Figure 100–4 and Figure 100–5 illustrate the functional block diagram of the receive path in the CLT and CNU, respectively in the 10GPASS-XR PMA."

Align US rate with similar statements in 101.3.1

Cl **100** *SC* **100.2.10.2** *P* **111** *L* **17** # 4171
Dawe, Piers Mellanox

Comment Type **TR** *Comment Status* **D**

"The required level for CLT upstream post-FEC error ratio is defined for AWGN as less than or equal to 10-6 frame loss ratio with 1500 byte Ethernet MAC packets." and
"100.2.12.2 CNU receiver capabilities
The required level for CNU downstream post-FEC error ratio shall be less than or equal to 10-6 frame loss ratio when operating at a CNR as shown in Table 100-15, under input load and channel conditions as follows with 1500 byte Ethernet packets.":
this is the PMD clause. The PMD doesn't contaiun the FEC: what does the PMD have to do to satisfy this condition?

SuggestedRemedy

Define PMD spec.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"The required level for CLT upstream post-FEC error ratio is defined for AWGN as less than or equal to 10-6 frame loss ratio with 1500 byte Ethernet MAC packets. This section describes the conditions at which the CLT is required to meet this error ratio."

To:
"The required level for CLT upstream post-FEC error ratio is defined for AWGN as less than or equal to 10-6 frame loss ratio with 1500 byte Ethernet MAC packets. This section describes the conditions at which the PMD, PMA, PCS in conjunction are required to meet this error ratio. "

Cl **99** *SC* **FM** *P* **8** *L* **14** # 4172
Law, David HP

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

Now that the IEEE P802.3bn balloting group has been established, please complete the list of officers and members of the IEEE 802.3 working group.

SuggestedRemedy

Please include the list of officers and members of the IEEE 802.3 working group.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Editor changed Clause from "FM" to 99

Cl **01** *SC* **1.4.144a** *P* **26** *L* **21** # 4173
Law, David HP

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

Based on the use of the text '... carrying RF signals ...' suggest that RF be added to subclause 1.5.

SuggestedRemedy

Add 'RF radio frequency', in alphabetical order, to the changes to subclause 1.5 on page 27.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4.145b** *P* **26** *L* **23** # 4174
Law, David HP

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

The three new definitions being inserted consecutively after existing subclause 1.4.144 should be numbered 1.4.144a, 1.4.144b and 1.4.144c.

SuggestedRemedy

Subclause '1.4.145b' should be numbered '1.4.144b' and subclause '1.4.146c' should be numbered '1.4.144c'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **56** *SC* **56.1.5** *P* **72** *L* **52** # 4175
Law, David HP

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

Not sure why a dash has been added between '10GBASE' and 'RS', this text relates to 10 Gb/s Reconciliation Sublayer and not a PHY. In addition this is not marked as a change, yet this is a change from the published standard, IEEE Std 802.3-2012, and current revision draft IEEE P802.3 (IEEE 802.3bx) draft D3.2.

More importantly however, the addition of the 10GPASS-XR PHY by IEEE P802.3bn means that not all 10 Gb/s PHYs will be '10GBASE' PHYs.

SuggestedRemedy

Due to the addition of the 10GPASS-XR PHY by IEEE P802.3bn, and since this is the only instance I can find of the use of the term '10GBASE RS', suggest the text '10GBASE-RS' be changed to read '10 Gb/s Reconciliation Sublayer'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove the dash; i.e. change "10GBASE-RS" to "10GBASE RS" so as to match the text in P802.3bx. Question: does the P802.3bn updates permit the addition change in the remedy?

Cl **56** *SC* **56.1** *P* **67** *L* **16** # 4176
Law, David HP

Comment Type **TR** *Comment Status* **D**

IEEE P802.3 (IEEE 802.3bx) draft D3.2 subclause 1.4 defines 'Point-to-Multipoint network (P2MP)' in subclause 1.4.331 as 'A passive optical network providing transport of Ethernet frames' so by this definition EPoC can't be a 'Point-to-Multipoint network' as it is not optical. IEEE P802.3bn draft D2.0 adds a definition for coax cable distribution network (CCDN) which is used here, however while IEEE P802.3 (IEEE 802.3bx) draft D3.2 subclause 1.5 'Abbreviations' defines 'ODN' as 'optical distribution network' there is no definition of the term in subclause 1.4. ODN is used in the existing EPON clauses, and additional uses are added in IEEE P802.3bn (e.g. subclause 56.1.2.1, page 67, line 50).

Suggest that 'Point-to-Multipoint network (P2MP)' should just be used in reference to a topology, and since 'point to point' has no definition, only an abbreviation (see IEEE P802.3 (IEEE 802.3bx) subclause 1.5), the same should be true for 'point to multipoint'. There should then be two complementary definitions for the two IEEE 802.3 P2MP media, one for an 'optical distribution network (ODN)' and one for a 'coax cable distribution network (CCDN)'. An EPON is then implemented over a P2MP optical distribution network (ODN), an EPoC network over a P2MP coax cable distribution network (CCDN).

Finally the definition in subclause 1.4.144a for 'coax cable distribution network' seems a bit circular as it starts with 'coaxial distribution network' and then seems to imply a point to point connection by only mentioning 'the MDI at the CNU and the MDI at the CLT'.

SuggestedRemedy

Suggest that:

[1] The definition in subclause 1.4.144a 'coax cable distribution network' be updated to read 'coax cable distribution network (CCDN): A Radio Frequency (RF) distribution plant comprising of either amplified or passive coaxial media.'.
[2] A new definition be added in subclause 1.4 that reads 'optical distribution network (ODN): A optical distribution plant comprising of fibre optical cabling and a passive optical splitter or cascade of splitters.
[3] Existing subclause 1.4.331 be deleted by IEEE P802.3bn.
[4] In subclause 56.1 (page 67, line 12) change '... in which a point-to-multipoint (P2MP) network topology is implemented with passive optical splitters, along with ...' to read '... in which a point-to-multipoint network (P2MP) is implemented over an optical distribution network (ODN), along with ...' and that (page 67, line 16) '... in which a P2MP network topology is implemented ...' be changed to read '... in which a P2MP network is implemented ...'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1** *P* **34** *L* **25** # 4179

Grow, Robert RMG Consulting

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

Reserved registers overlap registers defined in row above.
Table 45-3

SuggestedRemedy

Change 1.1952 to 1.1958.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Set SCI to 45.2.1, moved "Table 45-3" from SCI to Comment

Cl **45** *SC* *P* **36** *L* **6** # 4180

Grow, Robert RMG Consulting

Comment Type **TR** *Comment Status* **D** *EZ*

P802.3bw is defining the value 111101 which you show as reserved. As written, this could remove that definition. P802.3bp does not seem to have defined a value (bit should). P802.3bv is defining 110101. Together, the three amendments are creating a quite sparse matrix, which could push 802.3bs for the mulitple port types it will define.
Taqble 45-7

SuggestedRemedy

I see three options:

1. Change the draft to accomodate amendments expected to be approved prior to yours (e.g., 802.3bw).
2. Define the value and in the editorial instruction indicate that the publication editor should take care of fixing the reserved values (what I currently have in P802.3bv)
3. One amendment could change the list style to individually list the sixteen 11xxxx reserved values (this would logically be P802.3bw, but could be P802.3bn). This would then allow all subsequent amendments to to simply change one line in the cell.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Set SCI to 45.2.1.6, Moved "Taqble 45-7" from SCI to Comment

Change Editors instruction from
"Change Table 45–7 as follows:" to
"Change row Table 45–7 follows (change “reserved” line(s) as appropriate for values defined by this and other approved amendments):"

Cl **101** *SC* **101.5** *P* **225** *L* **28** # 4181

Powell, William Alcatel-Lucent

Comment Type **TR** *Comment Status* **D** *TimeSync*

The current D2.0 draft does not include methodology to adequately support time sync functions to levels required for current Mobile BackHaul applications. The current time transport method used for EPON is included in 802.1as Clause 13 using the MPCP RTT (round trip) ranging delay, which does not require DS/US PHY time delay symmetry. PHY time delays for EPoC are expected to be much higher than for EPON (and thus even higher CLT & CNU PHY TX/RX time delay asymmetry). Thus, the downstream delay from the CLT TX MAC MPCP counter to the CNU RX MAC MPCP counter will not be exactly 1/2 of the MAC-level MPCP RTT ranging delay, which will result in an inaccurate transmission of a future time at a future MPCP frame to CNUs with time sync functionality.

Although 802.3-2012 Clause 90 includes optional registers for silicon manufacturers to specify PHY min and max TX and RX time delays, it will likely result in large min/max ranges that result in highly inaccurate time transfer from the CLT to the CNU using the methodology specified in 802.1as Clause 13.

SuggestedRemedy

It is proposed to
(1) Remove the Editor's Note right under the 101.5 clause title - "TimeSync capability"

(2) Add the following additional PHY delay asymmetry registers to Clause 101.5.1:

DiffDelay_CLT - Nominal difference in time delay between the XGMII interface to the MDI interface path, and the MDI interface to the XGMII interface path for the CLT PHY in units of 1/204.8 MHz. Note that this is a signed variable (+/-).

DiffDelayTol_CLT - The tolerance (max error) of the DiffDelay_CLT variable in units of 1/204.8 MHz

DiffDelay_CNU - Nominal difference in time delay between the XGMII interface to the MDI interface path, and the MDI interface to the XGMII interface path for the CNU PHY in units of 1/204.8 MHz. Note that this is a signed variable (+/-).

DiffDelayTol_CNU - The tolerance (max error) of the DiffDelay_CNU variable in units of 1/204.8 MHz

(3) Authorize the editor to make any necessary additions to Clause 45 documenting access to the above new registers

(4) Create a new sub-clause 101.5.2 with:
Title - EPoC Extensions to IEEE 802.1as, Clause 13 methodology for
EPoC time transport

Content - included in: powell_3bn_01_0915.docx

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See remein_3bn_24_0915.