Cl **00** *SC* **0** *P* **175** *L* **27** # 3212

Remein, Duane Huawei Technologies

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

EDITORS NOTE (to be removed prior to publication): the above variable definition of DS_FreqCh(n), taken from 45.2.1.109 should be moved to Cl 100 and referenced in the above para. The details in Cl 45 should be removed to avoid duplicate definitions and a cross reference to the location in Cl 100 provided. A complementary definition for the US OFDMA channel center frequency is also needed in Cl 100.

SuggestedRemedy

Move DS_FreqCh(n) definition to 100.2.7.1
Change definition in 101.4.2.10.1 to read: "See 100.2.7.1"

Change text of 45.2.1.109.1 from
"Register bits 1.1902.15:0 specify the center frequency, in steps of 50 kHz, of subcarrier 0 for the first OFDM channel. Subcarriers are numbered from 0 to 4095 with subcarrier 0 at the lowest frequency. This definition equates to a subcarrier 0 center frequency of from 54.0 to 3,276.75 MHz in 50 kHz steps. The minimum value for this register is 1080. See 101.4.2.12 for additional details."
To:
"Register 1.1902 specifies the center frequency for the first OFDM channel. This register is a reflection of the DS_FreqCh(1) defined in 100.2.7.1."

Similarly change 45.2.1.109.2 thru 45.2.1.109.5 to read:
"Register 1.190x specifies the center frequency for the second OFDM channel. This register is a reflection of the DS_FreqCh(x) defined in 100.2.7.1." Replacing x and second with the appropriate numbering.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **209** *L* **10** # 3222

Remein, Duane Huawei Technologies

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

EDITORS NOTE (to be removed prior to publication): not all variables need to be included in Cl 45. We need to determine how to index variables that need to be communicated over the PHY Link that are not included in Cl 45. Current "rule" is:
If 1.1900 <= RegAdd <=1.1999 Then Index = RegAdd - 1.1900)*1000) (i.e., 0-99)
as of Draft 1.3 38 indexes in this range were in use.
If 12.0000 <= RegAdd Then Index = (RegAdd - 12.0000)*1000 + 100 (i.e., 100 +)

SuggestedRemedy

For variables defined in CL 45 MMD 1 use register address minus 1900 per current rule.
This will result in indices of 0 - 38 for currently defined registers.
For variables not defined in Cl 45 use index of 500-999
For variables defined in Cl 45 MMD 12 use register address + 1000. Thus registers 12.0000 to 12.10241 will use indices 1000 to 11241.
Update Tables 100-1, 101-1, 102-3 and 102-13.
Remove editors note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **235** *L* **19** # 3235

Remein, Duane Huawei Technologies

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

No such variable as NxtCNU_ID, Shouldn't ref Cl 45 as normative.

SuggestedRemedy

Change 3 instances of NxtCNU_ID to AllwdCNU_ID,
Strike references to Cl 45 in this para: "(see 45.2.1.117)", "(see 45.2.1.120)" and "(see 45.2.1.121)"
Add "variables" to very end of para so it reads: "... write the CNU PHYTimingOffset and PHYPowerOffset variables."

Add the following definitions to 102.4.1.7.2
AllwdCNU_I
TYPE: 15-bit integer
This variable is 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, when the flag is set to one it is an indication that this value has already been assigned to a CNU and it should not be use for another CNU.
DS_OFDM_ID
TYPE: 3-bit integer
This variable is a pointer to one of the five possible OFDM channels in the downstream EPoC network. Thus when DS_OFDM_ID is set to a value of one variables DS_ModTypeSC(n) reflect the OFDM descriptor for OFDM channel one. When DS_OFDM_ID is set to a value of two variables DS_ModTypeSC(n) reflect the OFDM descriptor for OFDM channel two, etc.

In 45.2.1.117.2 pg 45 ln 13 change:
"See 102.4.1.6 for additional details on the use of these bits."
to:
"These bits are a reflection of the AllwdCNU_I variable defined in 102.4.1.7.2."

In 45.2.7a.1 pg 49 ln 51 add the following:
"These bits are a reflection of the DS_OFDM_ID variable defined in 101.4.2.3.5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **24** *L* **20** # 3238

Remein, Duane Huawei Technologies

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

Align capitalization:
Coax Cable Distribution Network
coax cable distribution network
Proper noun or not? I think not

SuggestedRemedy

Use coax cable distribution network in all cases Excepting Fig 100-2, 100-3, 100-4 & 100-5 where upper case is used exclusively.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **24** *L* **31** # 3241

Remein, Duane Huawei Technologies

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

Align capitalization
Cyclic Prefix
cyclic prefix
Proper noun or not? I think not (not eh term is used in 802.3bx as cyclic prefix)

SuggestedRemedy

Convert all instances to cyclic prefix excepting cases where it is all caps in figures (in Fig 100-2 use all caps)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **24** *L* **37** # 3242

Remein, Duane Huawei Technologies

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

Align capitaliztion
Modulation Error Ratio or modulation error ratio?
Also we should not define the abbreviation in the Definitions clause

SuggestedRemedy

Use modulation error ratio exclusively.
Change
1.4.258a Modulation Error Ratio (MER): to
1.4.258a modulation error ratio:

Add to 1.5 Abbreviations
MER modulation error ratio

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **244** *L* **7** # 3254

Remein, Duane Huawei Technologies

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

Variables listed in Table 102-13 needs to be aligned with those named in Table 102-1 (and Cl 100 & 101).

SuggestedRemedy

See remein_3bn_16_0315.pdf for update to Table 102-13.

Add to Tables 101-1 & 102-1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **44** *L* **16** # 3217

Remein, Duane Huawei Technologies

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

PHY Discovery is now included in the EPoC Probe Control Header message. Therefore we don't need the PHY Discovery start variable to CL 45 Register 1913 & 1914

SuggestedRemedy

Remove PHY Discovery control register from Cl 45 (mark Register 1913 & 1914 as reserved in Table 45-3 and remove 45.2.1.116)
Remove PHY Discovery start and DiscStrt from
Table 102-3 pg 210 ln 7-11 and
Table 102-13 pg 244 ln 38

Proposed Response *Response Status* **W**

PROPOSED REJECT.
On second thought I'm no longer sure how the unranged CNU knows when to begin transmitting the PHY Discovery Response and this register/variable might become a required message along with an EPCH that opens the PHY Discovery window.

Cl **00** *SC* **0** *P* **49** *L* **47** # 3232

Remein, Duane Huawei Technologies

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

Inconsistent register name
pg 31 ln 14 10GPASS-XR FEC success counter
pg 48 ln 47 10GPASS-XR FEC codeword success counter
pg 48 ln 49 10GPASS-XR FEC codeword counter success
pg 49 ln 5 10GPASS-XR FEC codeword counter
and in table 101-1 (3x)
pg 113 ln 20 10GPASS-XR FEC success count & 10GPASS-XR FEC codeword success counter

Likewise in 45.2.1.127
pg 31 ln 16 10GPASS-XR FEC fail counter
pg 49 ln 16 10GPASS-XR FEC codeword fail counter
pg 49 ln 18 10GPASS-XR FEC codeword counter fail
pg 49 ln 27 10GPASS-XR FEC codeword counter fail
and in table 101-1
pg 113 ln 24 10GPASS-XR FEC fail count, 10GPASS-XR FEC codeword fail counter & Fec codeword fail count

SuggestedRemedy

Consistently use
10GPASS-XR FEC codeword success counter
10GPASS-XR FEC codeword fail counter

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **68** *L* **24** # 3261

Remein, Duane Huawei Technologies

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

18 instances of "Editor's Note"

SuggestedRemedy

Change to "EDITORS NOTE"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **80** *L* **53** # 3253

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Nrp/Ncp*

Two names for US cp and windowing (US_Nrp => USNrp). Names can be aligned with DS (Cl 45, 101, 102 and possibly others)

SuggestedRemedy

Change all instance of
"US_Nrp" to "USNrp" (4x;
Cl 100 pg 80 ln 53,
Cl 101 pg 112 ln 29,
Cl 102 pg 233 ln 29 &
Fig 102-29 pg 234 ln 16)
and
"US_Ncp" to "USNcp" (8x;
Cl 100 pg 81 ln 6,
Fig 100-6 pg 94 ln 24,
Cl 101 pg 112 ln 30,
Cl 102 pg 233 ln 28,
Fig 102-21 pg 234 ln 15, 16, 17, 22)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **00** *SC* **0** *P* **83** *L* **33** # 3280

Laubach, Mark Broadcom

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

Consider changing TxEnable to tx_enable, aligns variable with similar clauses that use an underscore, e.g. Clause 76. There are differences in settings from clause 75 "enable" and "disable" to clause 76 using "on" and "off".

SuggestedRemedy

Change "TxEnable" to "Tx_Enable" where applicable in clauses. Change values from "ENABLE" and "DISABLE" to "ON" and "OFF" respectivley to match use in Clause 76.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
TxEnable - 20x in Cl 100 & 102
tx_enable 3x in Cl 101 (Pg 132 ln 5-15)

The tx_enable in Cl 76 (& Tx_Enable elsewhere in Section 5) has a subtle difference in meaning. In previous PON clauses this is used to turn on the Laser during US transmission.
In our case we are using TXEnable to allow transmission in both the CNU and the CLT. In the CNU case it is a confirmation that all the variables liste in Table 102-13 needed for PHY Discovery have been received. Similarly in the CLT there are a number of variable that need provisioning prior to going live on the network.

We can consider a new name in our clauses but should distinguish it from that in Cl 75/76.

Cl **00** *SC* **101.3.2.5.5** *P* **132** *L* **51** # 3302

Laubach, Mark Broadcom

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

Need to change as the generation of the PMD_SIGNAL.request() was moved into the CNU PMA Pilot Insertion function (the reference point in the processing where it is known if an RB is going to be used (turned on with energy in a subcarrier) in an RB Frame prior to passing to IDFT.

SuggestedRemedy

Remove subclause 101.3.2.5.5.
Page 135, line 12 remove "and Data Detector input".
Page 137, line 45 change "Data Detector" to "PMA Client function".
Page 138, line 38 remove the redundant ", FEC encode and Data Detector output process," from CLT paragraph.
Page 138, line 42 remove "and Data Detector" from CNU paragraph.
Page 77, line 14, move "DATA DETECTOR" Pilot Insertion box, line 31.

Note that this comment will likely overlap with other CNU transmit changes entered by comment or by presentation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Cl 00 (effects CL 101 & 100)
Page 77, line 14, Remove "DATA DETECTOR" Pilot Insertion box, line 31.
<OR>
state where the "DATA DETECTOR" gets moved to.

Cl **01** *SC* **1** *P* **24** *L* **5** # 3234

Remein, Duane Huawei Technologies

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

Renumber Clause per 802.3bx D2.1 plus editorial updates see related comments on 1.4.135a through 1.4.258a

SuggestedRemedy

See remein_3bn_15_0315 and remein_3bn_15_0315CMP

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100** *P* **74** *L* **1** # 3297

Laubach, Mark Broadcom

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

All tables, make sure that table footnotes are FM footnotes.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.1** *P* **74** *L* **15** # 3290

Laubach, Mark Broadcom

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

Figure 67-2a does not exist. Remove cross reference until such a time the TF approves a new figure for Clause 67..

SuggestedRemedy

Delete ", as shown in Figure 67-2a".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Discuss need for figure.

Cl **100** *SC* **100.1.2** *P* **74** *L* **15** # 3201

Remein, Duane Huawei Technologies

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

Cross references to the amendment, such as "Figure 67-2a" should be live using cross-reference format Clause, section, Figure #, Equation # or Table #. Those to objects in the standard and not included in the amendment should be in character style "External"

SuggestedRemedy

Correct all cross references styles.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Figure 67-2a does not exist.
Otherwise, will check for conformance.

Cl **100** *SC* **100.1.3** *P* **76** *L* **50** # 3202

Remein, Duane Huawei Technologies

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

This editors note has served it's purpose:
"EDITORS NOTE (to be removed prior to publication): US Block diagram needs to reflect symbol duplication for PHY Link Discovery Response message."

SuggestedRemedy

remove

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.3** *P* **76** *L* **9** # 3255

Remein, Duane Huawei Technologies

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

In Fig 100-2 & 100-3 we illustrate a "RATE ADAPTATION" functional block. In Cl 101.3.2 (pg 120 ln 4) this is referred to as "an Idle control character deletion function performing the function of data rate adaptation". In section 5 of the standard (76.3.2 Fig 76-7 & 76-8) this is referred to as "Idle Deletion". We should be consistent with the standard.

See related comment against 101.3.2 pg 120 ln 4

SuggestedRemedy

Change "RATE ADAPTATION" to "IDLE DELETION" in Figure 100-2 & 100-3 and to "IDLE INSTERTION" in Figure 100-4 & 100-5

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See Releated cmt #3256

Cl **100** *SC* **100.1.4** *P* **80** *L* **14** # 3203

Remein, Duane Huawei Technologies

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

Text to address Editors note:
EDITORS NOTE (to be removed prior to publication): need to evaluate adding data rate for OFDM/A (reference point MDI) as part of the definition.

SuggestedRemedy

To the end of 1st para in this section add:
"The 10GPASS-XR-D and 10GPASS-XR-U PMDs both have a variable rate that is determined when configured. See Equation (100-1) and Equation (100-2) for additional information on the 10GPASS-XR-D and 10GPASS-XR-U data rates respectively."
Remove editors note ln 14.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.1.5** *P* **81** *L* **37** # 3279

Laubach, Mark Broadcom

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

Problems in Table 100-1.
Register numbers to index numbers wrong in new table "1024+100" should be 1124, not 2124, etc.

SuggestedRemedy

Editor's discretion to verify and update all index numbers in the table.
Change color all magenta text to black text in Table 100-1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This will change with global renumbering comment. Editor discretion will need to validate numbers after this renumbering takes place. See Comment #3222.
Expect lines 24-31 "100" to go to "101", line 33, "101" to "102", etc. Also, lines 37-44, "2124" to "1124".

Cl **100** *SC* **100.2.1.1** *P* **82** *L* **50** # 3317

Laubach, Mark Broadcom

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

Update to place stake in ground. I've heard from implementers that PMD jitter should be negliable. These values are the same at for 10GEPON.

SuggestedRemedy

1) Change subclause text to: "The PMD shall introduce a transmit delay variation of no more than 0.5 time_quanta, and a receive delay variation of no more than 0.5 time_quanta. A description for the time_quantum can be found in 77.2.2.1."
2) Remove editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.1.2** *P* **83** *L* **12** # 3204

Remein, Duane Huawei Technologies

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

Use of appropriate(ly) is inappropriate.
"... the appropriately formatted stream of I / Q value pairs ..."
The appropriate format is clearly stated in the previous para (32-bit signed int).
The same issue exists in 100.2.1.3, 100.2.2, & 100.2.3.
Note that this interface is not exposed and therefore is not normative, rather this is properly stated as a behavior.

SuggestedRemedy

strike " appropriately formatted" (5x).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.10.2** *P* **104** *L* **5** # 3301

Laubach, Mark Broadcom

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

"Table 7-12" need to be updated to correct table cross reference.

SuggestedRemedy

Change both Table refs from "7-12" to "100-12".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Just one ref needs to be updated.

Cl **100** *SC* **100.2.5** *P* **84** *L* **42** # 3205

Remein, Duane Huawei Technologies

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

This points to 102.2.1.2 & 102.3.1.2 which points here, very circular.
"Modulation format for PHY Link is specified in 102.2.1.2 and 102.3.1.2."

SuggestedRemedy

Change to read:
"See 102.2.1.2 and 102.3.1.2 for a description of downstream and upstream PHY Link modulation respectively."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.6** *P* **84** *L* **44** # 3220

Remein, Duane Huawei Technologies

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

Is DS & US data rate calculated at CNU or configured? If configured then add to Table 102-13 and 102-1. If calculated then this should be specified in Cl 100.

SuggestedRemedy

NOT FINAL

Question sent to Mark

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The CLT configures the CNU on DS and US rates. A variable needs to be added for the CNU to raise an error if the CNU calculation is different than the CLT calculation. There are spare bits in 1907 which can be used as a flag. Mismatch would create a link negotiation failure. Need to define accuracy for matching UQ34.3 format.

Cl **100** *SC* **100.2.6.1** *P* **84** *L* **53** # 3208

Remein, Duane Huawei Technologies

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

Eradicate Cl 45 ref.
"The CLT calculates the downstream PMA data rate after any configuration update that changes the downstream profile descriptor for any channel or the Cyclic Prefix size. See 45.2.7a.1 and Table 45-191c."

SuggestedRemedy

Change to:
"The CLT calculates the downstream PMA data rate after any configuration update that changes the downstream profile descriptor variables DS_ModTypeSC(n) or for any change to the cyclic prefix size DS_Ncp. See 101.4.2.3.5 and 101.4.2.11.1."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.6.1** *P* **84** *L* **53** # 3227

Remein, Duane Huawei Technologies

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

Another pesky Cl 45 ref.
"The CLT calculates the downstream PMA data rate after any configuration update that changes the downstream profile descriptor for any channel or the Cyclic Prefix size. See 45.2.7a.1 and Table 45-191c."

SuggestedRemedy

Strike:
"or the Cyclic Prefix size. See 45.2.7a.1 and Table 45-191c."
Note that changing the CP (or window size) causes a network restart and this will presumably cause a recalculation of data rate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Accept the comment. Note to use to check to see where the text is for changing CP would cause network restart.

Cl **100** *SC* **100.2.6.1** *P* **85** *L* **18** # 3207

Remein, Duane Huawei Technologies

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

We shouldn't ref Cl 45 but rather the definition of the variable set DS_ModTypeSC(n).
"Note in Table 45-191b that the DS Modulation Type values binary 0011 (3 decimal) through 1110 (14 decimal) directly represent data bits per active subcarrier"

SuggestedRemedy

Change to read:
"Note that in the definition of DS_ModTypeSC(n) the values binary 0011 (3 decimal) through 1110 (14 decimal) directly represent the number of data bits per active subcarrier (see 101.4.2.3.5)."
Ln

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.6.2** *P* **85** *L* **32** # 3209

Remein, Duane Huawei Technologies

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

Eradicate Cl 45 ref.
"The CLT calculates the upstream PMA data rate after any configuration update that changes the upstream profile descriptor for the channel or the Cyclic Prefix size. See 45.2.7a.2 and Table 45-191c."

SuggestedRemedy

Change to:
"The CLT calculates the upstream PMA data rate after any configuration update that changes the upstream profile descriptor variables US_ModTypeSC(n) or for any change to the cyclic prefix size US_Ncp. See 101.4.3.4.4 and 101.4.3.14.1."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.6.2** *P* **85** *L* **50** # 3296

Laubach, Mark Broadcom

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

Fix upstream frame data load equation to move "RE" to italics.
Look at other italics stuff.

SuggestedRemedy

As commented. Editor to review FM equations and text for consisent use of italics.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.6.2** *P* **85** *L* **9** # 3206

Remein, Duane Huawei Technologies

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

There is a variable for "Cycle Prefix Time" used here in the Cycle Prefix Time equation.
Same issues exists for US at line 43

SuggestedRemedy

Change Equations to read:
"DS_Frame_Length = 128 x DS_Extended_OFDM_Symbol (usec)" (ln 7)
"DS_Extended_OFDM_Symbol = 20 + DS_Ncp (usec)" (no subscripts, ln 9)
"US_Frame_Length = (256 + 6) x US_Extended_OFDM_Symbol(usec)" (ln 41)
"US_Extended_OFDM_Symbol = 20 + US_Ncp (usec)" (no subscripts, ln 43)
Ln 5 replace "Extended_OFDM_Symbol" with "DS_Extended_OFDM_Symbol" and "Cycle Prefix size" with "downstream cyclic prefix size DS_Ncp"
Ln 38 replace "Extended_OFDM_Symbol" with "US_Extended_OFDM_Symbol" and "Cycle Prefix size" with "upstream cyclic prefix size US_Ncp"
be sure to use italics for all variable names.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.6.2** *P* **86** *L* **1** # 3210

Remein, Duane Huawei Technologies

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

We shouldn't ref Cl 45 but rather the definition of the variable set DS_ModTypeSC(n).
"Note in Table 45-191d that the US Modulation Type values binary 0011 (3 decimal) through 1110 (14 decimal) directly represent data bits per active subcarrier."

SuggestedRemedy

Change to read:
"Note that in the definition of US_ModTypeSC(n) the values binary 0011 (3 decimal) through 1110 (14 decimal) directly represent the number of data bits per active subcarrier (see 101.4.3.4.4)."

At pg 85 line 46 replace
"the value is the US Modulation Type value minus" with
"the value is the US_ModTypeSC(n) value minus

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8** *P* **86** *L* **31** # 3236

Remein, Duane Huawei Technologies

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

Add definition of DS_ChCnt to Cl 100 and in tables 100-1
(related comment against 102 on DS_ChCnt)

SuggestedRemedy

Add section
100.2.8.6 Variables
DS_ChCnt
TYPE: 3-bit integer
This variable indicates the number of downstream OFDM channels in use. The value of DS_ChCnt is between 1 and 5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
May be included in 100.2.8 sanity check presentation.

Cl **100** *SC* **100.2.8.2** *P* **87** *L* **43** # 3248

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Review MinUS_SC*

Check that we specify min/max active subcarriers (was Table 101-12 in D1.2)
Pg 157 ln 1 DS Min in Table 101-8 (40 SC)
Pg 87 ln 43 DS Max as encompassed spectrum in Table 100-3

pg 182 ln 23 US min - Table 101-13 (40 SC)
US Max - as max encompassed in Table 101-13

SuggestedRemedy

Impacts Cl 101 & possibly 100
Rationalize Tables 101-8 with Table 100-3 and Table 101-13 with expected new table in 100 addressing CNU RF output requirements

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Needs review for rationalization.

Cl **100** *SC* **100.2.8.2** *P* **88** *L* **48** # 3228
Remein, Duane Huawei Technologies

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

Footnotes do not appear to be connected to the Table but appear as separate text.

SuggestedRemedy

For all table sin this clause ensure the table footnotes are part of the table and not separate text of style "footnote". Footnotes not called out in individual table cells can be attached to the table title or column heading as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.4** *P* **90** *L* **1** # 3288
Laubach, Mark Broadcom

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

Remove the "all" context from the table footnote to avoid confusion with the rest of the use of ceiling in this Clause, except where indicated. Format all table footnotes in Clause 100 to use Framemaker footnotes (to tables).

SuggestedRemedy

Change "All equations are Ceiling(Power, 0.5) dBc. Use " to "This equation produces values in 0.5 dBc steps. To calculate use ". Update all table footnotes in Clause 100 as FM footnotes, where applicable.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Check this when reviewing downstream electrical sanity check presentation.

Cl **100** *SC* **100.2.8.4** *P* **90** *L* **2** # 3309
Laubach, Mark Broadcom

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

"OFCM" is incorrect. This will be caught in the Downstream Electrical sanity check, but wanted to make sure it is attended to.

SuggestedRemedy

Change to "OFDM".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.4** *P* **90** *L* **5** # 3273
Remein, Duane Huawei Technologies

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

Two tables labeled "CLT RF output requirements"; Table 100-3 & 100-5

SuggestedRemedy

Change title for 100-5 to "CLT RF output power requirements"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.8.5** *P* **91** *L* **26** # 3274
Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Nrp/Ncp*

Unique instances of DS_Ncp and DS_Nrp.

SuggestedRemedy

change to DSNcp and DSNrp respectively.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.1** *P* **94** *L* **11** # 3229
Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Nrp/Ncp*

"Ncp" should be USNcp at Cl 100 pg 94 ln 12,

SuggestedRemedy

per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.4** *P* **95** *L* **31** # 3289
Laubach, Mark Broadcom

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

For 3, the relationship in the equation should be greater than.

SuggestedRemedy

Change "P1.6r <LT> P1.6Min" to "P1.6r <GT> P1.6MIn"; i.e. change less-than symbol to greater-than symbol.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.6.1** *P* **101** *L* **40** # 3340

Remein, Duane Huawei Technologies

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

the "where;" at line 40 applies to Eq 100-16 and 100-17 and should be split.

SuggestedRemedy

Add new "where:" statement just below Eq 100-16
Move to new "where:"
"Eavg is the average constellation energy for equally likely symbols,
RBsize is the number of symbols averaged, either 8 or 16," and
"ej,k is the error vector from the jth subcarrier in the burst and kth received symbol to the ideal transmitted QAM symbol of the appropriate modulation order."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.2.9.7** *P* **102** *L* **35** # 3281

Laubach, Mark Broadcom

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

New upstream table, fix "see subclause 10.2.7.2".

SuggestedRemedy

Change cross reference to "100.2.7.2".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **100** *SC* **100.3.3** *P* **108** *L* **52** # 3325

Laubach, Mark Broadcom

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

1) Subclauses through 100.3.3 to 100.6 have no text. If no text is provided by end of this March meeting, remove these subclauses.

2) Subclause 100.7 is "EEE capability" and needs text.

3) Consider removing subclauase or adding an editor's note to remove subclase "100.8 Timesync capability" if no text is provided by the May meeting; i.e. in general, any empty subclauses with no text at the close of the May meeting should be removed.

SuggestedRemedy

1) as per comment.
2) Add the following text: "For the 10GPASS-XR-U PHY the CNU shall enable Energy-Efficient Ethernet (EEE) capability to conserve energy by deactivating power-consuming PMD Functions (e.g. RF power amplifier) between bursts using PMD_SIGNAL.request() (see 100.2.1.4)."

Page 82, Line 30. Add sentence to paragraph: "PMD functions are implementation dependent and include digital-to-analog conversion, analog-to-digital conversion, interpolation, analog filtering, frequency conversion, and/or RF power amplification."

For 3) as per what TF decides.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
May want to review wording so we have a starting point. For 3) add Editor's note following comment.

Cl **100** *SC* **45.2.7a.5** *P* **54** *L* **37** # 3320
Laubach, Mark Broadcom

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

The MER variables here are not reflected in any clause variable table (that I can find). MER values will be calculated as part of the CNU and CLT receive Pilot Processing, Equalization, and FFT functions in the PMA. Note to us that we may need to add some extra words into the FFT subclause to require MER calculation.

SuggestedRemedy

Suggest adding MER variables into Table 101-1, page 112-114. Editor's discretion on naming and placement.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed fm Cl 45 to Cl 100
MER defined in:
100.2.9.6.1 pg 101 & 100.2.12.3
Rqmt to make meas. In 100.2.12.3 pg 106 ln 42

Add formal definitions in 100.2.12.3.1 as
100.2.12.3.1 Variables
RxMER(n)
TYPE: array of 8-bit integer (???)
This set of variables reflect the MER measured on the OFDM subcarriers for the OFDM channel indicated by the RxMERchID. The measurements are only valid when RvMERvalid is TRUE.
**** WHAT IS THE UNIT OF THIS VALUE? ****

RxMERchID
Type: integer
This variable indicate which of the 5 possible OFDM channels the values in RxMER(n) represent.

RxMERvalid
TYPE: boolean
When TRUE this variable indicates that the values in RxMER(n) variables are valid for the channel indicated by RxMERchID. When FALSE this variable indicates the some values in the RxMER(n) variables may be invalid for the channel indicated by RxMERchID.

Add each of the above defined variables to Table 100-1

MDIO Param | MDIO reg |Reg/bit | VarName | Index | Bits
MER measurement valid | 10GPASS-XR receive MER control | 12.10240.3 | RxMERvalid
Receive MER Channel ID | 10GPASS-XR receive MER control | 12.10240.0:2 | RxMERchID
10GPASS-XR receive MER measurement | 10GPASS-XR receive MER measurement | 12.10241 - 10.12287 | RxMER(n)

Cl **100A** *SC* **100A.0.0.0** *P* **323** *L* **1** # 3314
Laubach, Mark Broadcom

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

Fix all table footnotes to normative alpha format and use FM table footnote indenting.

SuggestedRemedy

Editor's discretion to fix Tables as per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Review each footnote with TF for normative or informative status.

Cl **101** *SC* **101.1.1** *P* **111** *L* **25** # 3259
Remein, Duane Huawei Technologies

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

Cl 101 also uses the floor function symbols (see Eq 101-3)

SuggestedRemedy

Add definition of floor symbol (copy from Cl 100.1.1 pg 74 ln 25)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.1.2** *P* **111** *L* **30** # 3321
Laubach, Mark Broadcom

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

Time to put a stake in the ground. Also, fix xref to point to 10G EPON subclause as the time_quantum in 64.2.2.1 does not point to the 10GEPON MPCP clause. This subclauase will likely be ammended to include any (de)jitter effects and impact of upstream symbol mapper operation. Will do so in a later contribution. For now, all functional processing implementations should adhere to the same combined delay variation as 10GEPON (Section 76.1.2.).

SuggestedRemedy

Change "TBD" to "1". Change "64.2.2.1" to "77.2.2.1".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "TBD" to "1".
Leave Ref as is given that 77.2.2.1 reads "time_quantum
This variable is defined in 64.2.2.1."

What is meant by "For now, all functional processing implementations should adhere to the same combined delay variation as 10GEPON (Section 76.1.2.)."?

Cl **101** *SC* **101.1.3** *P* **112** *L* **26** # 3252

Remein, Duane Huawei Technologies

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

Probe Duration (and therefore PrbDur) are no longer used.

SuggestedRemedy

remove row from Table 101-3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.1.3** *P* **113** *L* **13** # 3318

Laubach, Mark Broadcom

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

Lines 13 through 28. We need a set of counters for the DS (CNU receiver) and a set of counters for the US (CLT receiver).

SuggestedRemedy

Add a second set of counters and distinquish US and DS. Variable names Page 145 Line 27 through 36 should be updated for DS as well as names in state diagram on Page 148, lines 6-8, 31, and 34.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
These counter are always from the perspective of the receiver; US counters will reside in CLT, DS counters will reside in CNU. There is no need to differentiate US & DS in the variable name.

Cl **101** *SC* **101.2.4.2** *P* **117** *L* **10** # 3282

Laubach, Mark Broadcom

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

Consider taking out all RS text as EPoC does not modify the RS. Clause 101.2.4.2, keep title and first sentence and references. Do for Tx and Rx.

SuggestedRemedy

Page 117, Line 10 Clause 101.2.4.2, keep title and first sentence and references. Remove subclauses 101.2.4.2.1 through 101.2.4.2.3.
Page 117, Line 46, keep title and add new first paragraph "The receive function of the EPoC RS is described in <green>65.1.3.3</green> with the exceptions as noted in <green>76.2.6.1.3</green>. The XGMII receive function is described in <green>46.3.2</green>." Remove remainder of text in this subclause, and subclauses 101.2.4.3.1 through 101.2.4.3.3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3** *P* **119** *L* **29** # 3266

Remein, Duane Huawei Technologies

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

The PCS section has gotten a bit disjointed and is poorly organized, with duplicate sections. Recommend reording section.
Made technical due to extent of change.

SuggestedRemedy

Recommend new outline as illustrated in remein_3bn_13_0315.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Need to rationalize this with any contributions in this area.

Cl **101** *SC* **101.3.1** *P* **119** *L* **40** # 3331

Zhang, Jin Marvell Semiconductor

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

"...that mean time to false frame acceptance is met". It would be better to specify the exact value of the mean time to false frame acceptance.

SuggestedRemedy

Modified as "...that the target mean time to false packet acceptance (MTTFPA), or 4.4x10^17 second, is met

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change to:
"...that the target mean time to false packet acceptance, of 4.4x10^17 second, is met"

Cl **101** *SC* **101.3.2** *P* **120** *L* **4** # 3256

Remein, Duane Huawei Technologies

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

This statement can be better worded:
"the EPoC PCS includes an Idle control character deletion function performing the function of data rate adaptation and a FEC overhead compensation followed by a 64B/66B encoder, and a mandatory FEC encoder."

(also see related comment against 100.1.3, pg 76 ln 9)

SuggestedRemedy

Change to read:
"the EPoC PCS includes an Idle Deletion function that performs data rate adaptation and FEC overhead compensation, followed by a 64B/66B Encoder, and a
FEC Encoder / Data Detector."

In Cl 101 replace:
15 instances of "Idle control character deletion process" with "Idle Deletion process"
14 instances of "FEC encoder" with "FEC Encoder"
12 instances of "64B/66B encoder" with "64B/66B Encoder"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Releated cmt #3255

Cl **101** *SC* **101.3.2.1** *P* **120** *L* **18** # 3257

Remein, Duane Huawei Technologies

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

This statement is self contradictory:
"to decrease the data rate between the MAC and PHY, while maintaining the effective data rate unchanged (data rate adaptation sub-process)"

SuggestedRemedy

Change to read:
"to decrease the data rate between the MAC and PHY (data rate adaptation sub-process)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"to decrease the effective data rate between the MAC and PHY (data rate adaptation sub-process)"

Cl **101** *SC* **101.3.2.1** *P* **120** *L* **24** # 3338

Zhang, Jin Marvell Semiconductor

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

Since the two subprocesses have been merged into one process and one diagram, there is no need to mention the two subprocesses.

SuggestedRemedy

Remove the words "The Idle control character deletion process is composed of two sub-processes executed in the following order:
a)...
b)..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace the text with the following:
"The Idle deletion process performs two functions:
a) create gaps by Idle removal to allow for FEC parity and CRC40.
b) rate adaptation by idle removal to adjust from the XGMII rate to the PMD rate."

Cl **101** *SC* **101.3.2.1** *P* **120** *L* **35** # 3258

Remein, Duane Huawei Technologies

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

This statement is conflicts with the preceding sentence which states that, once Idle Deletion is complete no excess Idles remain in the data stream:
"sufficient number of excess Idle control characters are present in the data stream, so that the minimum IPG between two adjacent frames is preserved once all excess Idle control characters are removed"

SuggestedRemedy

Strike first "excess" so the statement reads:
"sufficient number of Idle control characters are present in the data stream, so that the minimum IPG between two adjacent frames is preserved once all excess Idle control characters are removed"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.2** *P* **121** *L* **17** # 3260

Remein, Duane Huawei Technologies

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

countVector defined twice, here and in 101.3.3.3.2 with different definitions
101.3.2.1.2
TYPE: 16-bit unsigned integer
Counts the number of 72-bit vectors transmitted after the removal of Idle characters as part of data rate adaptation and FEC overhead compensation.
101.3.3.3.2
TYPE: 16-bit unsigned integer
This variable represents the number of 72-bit vectors stored in the FIFO_II at the given moment of time.

SuggestedRemedy

Change variable name in 101.3.2.1.2 to countVectorT
and in Fig 101-2 (4x)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.2** *P* **121** *L* **26** # 3334

Zhang, Jin Marvell Semiconductor

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

The purpose of delayBound is not to stablize the receiver, but to absorb certain jitters caused by insertion of burst markers, pilots, etc.

SuggestedRemedy

This value represents the delay sufficient to initiate the transmitter at the CNU and to accomordate timing jitters caused by PMA overhead, such as burst markers, and pilots, (i.e., the maximum FIFO size expressed in units of 66-bit blocks). The
value of delayBound includes TBD. This variable is used only by the CNU.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
It is not clear to me what the max FIFO size has to do with this.
Change to:
"This value represents the delay sufficient to initiate the transmitter at the CNU and to accomordate timing jitter caused by PMA overhead, such as burst markers, and pilots. The value of delayBound includes TBD. This variable is used only by the CNU."

Cl **101** *SC* **101.3.2.1.2** *P* **121** *L* **36** # 3343

Remein, Duane Huawei Technologies

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

the term XGMII_Rate is used here and in Cl 103 but is not defined anywhere.

SuggestedRemedy

Add to 101.3.2.1.1 Constants
XGMII_Rate
TYPE: Integer
The data transfer rate of teh XGMII interface.
Value: 10 Gb/s

Add to 103.2.2.1 Constants
XGMII_Rate
See 101.3.2.1.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.1.2** *P* **121** *L* **36** # 3335

Zhang, Jin Marvell Semiconductor

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

The equation 101-1 is an approximation of the PCS_Rate in 101-2. There is a small gap between the two values.

SuggestedRemedy

Use 101-2 as the definition for PCS_Rate because it is further used in other equations. We can rename the PCS_Rate as PCS_Rate_Nomimal, showing this is a normial rate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove Eq 101-1
(PCS_Rate = XGMII_Rate x (PHY_Dsize/(PHY_Dsize + PHY_Osize))

Cl **101** *SC* **101.3.2.1.2** *P* **122** *L* **15** # 3283

Laubach, Mark Broadcom

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

Consider replacing with DS_DataRate. Do sanity check on OFDM symbol rate, etc. Why is PLC separated out in this?

SuggestedRemedy

Replace PMD_Rate lines 16 through 22 with DS_DataRate variable definition with cross reference to 100.2.6.1 as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per suggestion but also replace "PMD_Rate" at pg 121 ln 39 (in Eq 101-2)

Remove Ed Note ln 23

Cmt #3336 is related.

Cl **101** *SC* **101.3.2.1.2** *P* **122** *L* **16** # 3336

Zhang, Jin Marvell Semiconductor

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

PMD_Rate is a referenced variable, its definition should be found in the PMA section, so are PLCTotalBits and PLCTotalCycles, or similar variables with other names. The equation of PMD_Rate can be relocated to the appropriate section in PMA

SuggestedRemedy

Remove the equation of PMD_Rate or put a note saying the equation will be relocated to PMA. Modify the text as "The transmission rate of PMD data. It is a rate determined by the bit loading profile, pilot overhead, band plans, Cycle Prefix, Windowing.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
I believe PMD_Rate in the context of Cl 103 DS (as used here) is equivilent to DS_DataRate as defined in Eq 100-1.

Replace all instances of PMD_Rate with DS_DataRate in CL 102.
Remove the definition of PMD_Rate here and add:
"DS_DataRate
See 100.2.6.1."

At 101.3.2.1 pg 120 ln 8 Add "EDITORS NOTE (to be removed prior to publicaiton) the TF need to do a thourough review of Idle control character deletion process as it is currently written to be applicable to both US & DS and these processes will be very different in EPoC where US/DS rates are different and US has multiple FEC's."

Cmt #3283 is related

Cl **101** *SC* **101.3.2.5.1** *P* **129** *L* **48** # 3284

Laubach, Mark Broadcom

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

We removed the legacy TDD CLT Tx data detection from figure in earlier comment rounds. This subclause is not needed.

SuggestedRemedy

Remove subclause 101.3.2.5.1.

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **101** *SC* **101.3.2.5.10** *P* **137** *L* **33** # 3267

Remein, Duane Huawei Technologies

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

Ref (see 101.4.1.2.1) should be associated with PMA_UNITDATA.request not DS_DataRate

Same issues at pg 145 line 51

SuggestedRemedy

move to just after PMA_UNITDATA.request

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Per suggestion.
Also add Ref after DS_DataRate to 100.2.6.1.

Cl **101** *SC* **101.3.2.5.12** *P* **138** *L* **32** # 3268

Remein, Duane Huawei Technologies

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

Blank section.

SuggestedRemedy

Remove

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.2** *P* **131** *L* **15** # 3263

Remein, Duane Huawei Technologies

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

The para beginning "The 64B/66B encoder produces a stream of 66-bit blocks as shown in Figure 101–6 ..." does not describe the LDPC encoding process.

SuggestedRemedy

Remove the para and reword this section to read:
"The process of padding FEC codewords and appending FEC parity octets in the 10GPASS-XR CLT PCS transmit path is illustrated in Figure 101–6. First the FEC encoder accumulates BQ 65-bit blocks (see Table 101–2) to form the payload portion of the FEC codeword. Next, the FEC encoder calculates the CRC40 (see 101.3.3) over the aggregated BQ 65-bit blocks, placing the resulting 40 bits of CRC40 code immediately after the BQ 65-bit blocks, forming the payload portion of the FEC codeword. Finally, the FEC encoder appends BP (see Table 101–2) padding bits (with the binary value of “0”) to the payload of the FEC codeword as shown in Figure 101–6. The resulting FP bits are then passed to the LDPC-encoder . The LDPC-encoder generates FR bits of parity. After encoding, the encoder deletes the BP bits of padding and constructs the output codeword with a length of (FP - BP) + FR bits; i.e., (14400 - 60) + 1800 = 16140 bits. For transmit processing in the downstream direction, the codeword size is a constant and is represented by constant FEC_DS_CodeWordSize (see 101.3.2.5.2).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See related comment #3264

Cl **101** *SC* **101.3.2.5.2** *P* **131** *L* **15** # 3264

Remein, Duane Huawei Technologies

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

This para has little to do with LDPC encode process and more rightly belongs in 101.3.2.2 (which points to Cl 49).
"The 64B/66B encoder produces a stream of 66-bit blocks as shown in Figure 101–6 (see 49.2.4.3 for more details); each 66-bit block is composed of 2 bits of sync header and 64 bits of data. These 66-bit blocks are converted to 65-bit blocks by removing the redundant first bit (i.e., sync header bit <0>) in each 66-bit block received from the 64B/66B encoder and are then delivered to the FEC encode and Data Detector input process. The FEC encoder accumulates BQ (see Table 101–2) of these 65-bit blocks to form the payload portion of the FEC codeword." In addition the referenced material in Cl 49 includes a scrambler within the 64/66B encoder and is not appropriate for EPoC as we scramble in the PMA layer.

Similar text with similar issues lives in 101.3.2.5.6 pg 135 ln 9

See related comments against wording in 101.3.2.5.2 & 101.3.2.5.6

SuggestedRemedy

Remove the para's from 101.3.2.5.2 & 101.3.2.5.6
Change 101.3.3.2 to read:
"The EPoC PHY utilizes a 64B/66B decoder based on that described in 49.2.11 with several important differences. The EPoC 64B/66B encoder does not include a scrambler function and the output is a 65B block with a single synch header bit as illustrated in Figure 101-11. The state diagram found in Figure 49-16 is followed. The 66-bit blocks produced by the Clause 49 64B/66B encoder are shortened to 65-bits by removing the redundant first bit (i.e., sync header bit <0>). These 65-bit blocks are then delivered to the PMA as described in 101.4.1.2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See related comment #3263

Rationalize with any contributions accepted on this section.

Cl **101** *SC* **101.3.2.5.3** *P* **132** *L* **17** # 3265

Remein, Duane Huawei Technologies

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

It is not clear from Fig 101-6 and Fig 101-11 which sync header bits are added to the data stream. In Figure 76-12 and from the text in 2nd para of 101.3.2.5.2 "LDPC encode process within CLT (downstream)" it is clear. Figure 101-6 should match it's descriptive text.

SuggestedRemedy

Replace with illustration in remein_3bn_12_0315.pdf and remein_3bn_14_0315.pdf respectively (available in visio)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.2.5.4** *P* **132** *L* **46** # 3262

Remein, Duane Huawei Technologies

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

This empty section is a duplicate heading with 101.3.2.5.6 (which has details)

SuggestedRemedy

Remove section heading and Editor's Note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Changed from Cl 100 to 101
Ensure this is aligned with any contributions in this area.

Cl **101** *SC* **101.3.3.1** *P* **141** *L* **49** # 3285

Laubach, Mark Broadcom

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

Did the Annex 101B go away already? We think we said to get rid of it.

SuggestedRemedy

Remove "Annex 101B gives an example of LDPC (FC, FP) FEC decoding." sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.3.1.3** *P* **144** *L* **17** # 3342

Remein, Duane Huawei Technologies

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

Conditions for action A & B are the same:
"If CRC40ErrCtrl is enabled and the calculated value of CRC40 does not match the value of CRC40 retrieved" then do action A
"If CRC40ErrCtrl is set to enable and the calculated value of CRC40 does not match the value of CRC40 retrieved" then do action B

SuggestedRemedy

Change the second condition from
"If CRC40ErrCtrl is set to enable and ..."
to
"If CRC40ErrCtrl is disabled and ... "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Rationalize with any material contributed on this section.

Cl **101** *SC* **101.3.3.1.3** *P* **144** *L* **20** # 3245

Remein, Duane Huawei Technologies

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

"If CRC40ErrCtrl is set to enable and the calculated value"
We typically use TRUE or FALSE

SuggestedRemedy

change "enable" to "TRUE"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
(TRUE & FALSE are also used in the def. pg 144)

Cl **101** *SC* **101.3.3.1.7** *P* **148** *L* **38** # 3287

Laubach, Mark Broadcom

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

Figure 101-13, "CTC" to "CRC"

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.3.3.2** *P* **149** *L* **24** # 3269

Remein, Duane Huawei Technologies

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

The reference to Cl 49.2.11 64B/66B decoding function needs some clarification as there are some difference in EPoC encoding (notably the lack of scrambling and single sync header bit).

SuggestedRemedy

Change 101.3.2.2 to read:
"The EPoC PHY utilizes a 64B/66B encoder based on that described in 49.2.11 with several important differences. The EPoC 64B/66B decoder does not include a descrambler function as described in 49.2.10 and the input is a 65B block with a single synch header bit. The state diagram found in Figure 49-17 is followed after the addition of sync header bit <0> as illustrated in Figure 101–11."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment related comment #3264

"The EPoC PHY utilizes a 64B/66B decoder based on that described in 49.2.11 with several important differences. The EPoC 64B/66B decoder does not include a descrambler function as described in 49.2.10 and the input is a 65B block with a single synch header bit. The state diagram found in Figure 49-17 is followed after the addition of sync header bit <0> as illustrated in Figure 101–11."

Need to make similar changes in 101.3.2.2 pg 127 ln 47 (remove scrambler)

Cl **101** *SC* **101.4.1.2.2** *P* **154** *L* **29** # 3303

Laubach, Mark Broadcom

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

Text change made for D1.3 incorrectly states operation of burstStart and burstEnd boolean operation.

SuggestedRemedy

Change "always a single FEC codeword of size FEC_DS_CodeWordSize
bits, and the CLT transmits continuously, thus both burstStart and burstEnd are FALSE." to "composed of a single FEC codeword where in the CNU upstream, the burst may comprise of one or more concatenated FEC codewords (see 101.3.2.5.7)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.2.3** *P* **154** *L* **35** # 3304

Laubach, Mark Broadcom

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

Fix the cross reference. Fix also in next subclause 101.4.1.2.4, Line 51.

SuggestedRemedy

Line 35, Change "101.x.x.x" to "100.2.6.2"
Line 50, Change "101.x.x.x" to "101.4.2.7".
Line 49, Change "PMA" to "PMA symbol mapper"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.2.3** *P* **154** *L* **35** # 3299

Laubach, Mark Broadcom

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

Fix reference to 100.x.x.x.

SuggestedRemedy

Cross reference to 100.2.6.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.1.3.1** *P* **155** *L* **7** # 3300

Laubach, Mark Broadcom

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

Why was upstream statement removed from the paragraph?

SuggestedRemedy

Consider returning last sentence of paragraph from previous Draft (modified): "In the upstream direction, the burst received by the CLT is variable in size
and if comprised of one or more concatenated FEC codewords (see see 101.3.2.5.7)."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The statement was removed by Cmt #2792
While the statement is true I don't see what it adds to the definition of PMA_UNITDATA.indication.

May want to remove the last sentence in this para.

Cl **101** *SC* **101.4.2.1** *P* **155** *L* **42** # 3211

Remein, Duane Huawei Technologies

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

This statement in Cl 100 pg 108 ln 26
"Channel loading consists of a single OFDM channel with no other signals"
conflicts with the following requirement in Cl 101:
"OFDM channel 1 shall always be enabled."

SuggestedRemedy

Change requirement to read:
"OFDM channel 1 shall always be enabled except during RxMER testing (see 100.3.2)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"OFDM channel 1 shall always be enabled but is muted during RxMER testing (see 100.3.2)."

Cl **101** *SC* **101.4.2.11** *P* **175** *L* **31** # 3293

Laubach, Mark Broadcom

Comment Type **E** *Comment Status* **D** *Nrp/Ncp*

Double check downstream DSNcp, DSNrp, USNcp, and USNrp and avoid subscription or underscores in this clause.

Line 45, change "CP" to "DSNcp". - can't find this is D1.3 clean text.

SuggestedRemedy

Editor's discretion to correct in Clause 101.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
It is not clear to the Editor what the issue is nor what the correction should be.
Note there is a comment (#3253) to align variable naming to be DSNcp, DSNrp, USNcp & USNrp.

Cl **101** *SC* **101.4.2.11** *P* **178** *L* **52** # 3306

Laubach, Mark Broadcom

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

Add a note to Figure 101-25 that Cyclic prefix and windowing: US is created in same fashion using USNcp and USNrp.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.2.2** *P* **156** *L* **26** # 3305

Laubach, Mark Broadcom

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

Xref should be 101-12. Before 101.4.2.3.

SuggestedRemedy

Change "10X-X" to crossref to Table 101-12.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Should be Table 101-7(?) (Table 101-12 covers Multiple OFDM channel requirements)
Note that this is the only mention of "10.24" or "CLT Master Clock" in the draft.

Cl **101** *SC* **101.4.2.5** *P* **159** *L* **41** # 3246

Remein, Duane Huawei Technologies

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

The following can be worded better:
"Downstream pilots are comprised of subcarriers modulated with a predefined pattern known to all CNUs. The pilot information is conveyed via the Pilot Insertion function (see Figure 100–2)."
The term pattern when associated with pilots typically refers to the order of the Pilots in the frame. It is not clear what pilot information is in this context.

SuggestedRemedy

Change to read:
"Downstream pilots are comprised of subcarriers modulated with a predefined data sequence known to all CNUs. The pilot data sequence is conveyed via the Pilot Insertion function (see Figure 100–2)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add ref to 101.4.2.9 along with Figure 100-2

Cl **101** *SC* **101.4.2.5.4** *P* **162** *L* **17** # 3298

Laubach, Mark Broadcom

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

Investigate equation numbering mis-restart and correct.

SuggestedRemedy

As per comment, editor's discretion.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Previous Eq on pg 127 ln 38 (Eq 101-5)

Cl **101** *SC* **101.4.2.5.4** *P* **162** *L* **3** # 3247

Remein, Duane Huawei Technologies

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

Duplicate requirements:
"The CLT shall define a set of continuous pilots distributed as uniformly as possible (see below) over the entire OFDM spectrum in addition to the predefined continuous pilots described in 101.4.3.5.3." (Pg 162 ln 3)
and
"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 NCP using Equation (101–6)." (pg 162 ln 12)

SuggestedRemedy

Keep the latter and change the former to read:
"The CLT defines a set of continuous pilots ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Related comment #3276

Cl **101** *SC* **101.4.2.5.4** *P* **162** *L* **3** # 3276

Laubach, Mark Broadcom

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

There are a number of "shall"s in this subclause, but the continuous pilot placement is normative in its entirety. Maybe one "shall" at the top?

SuggestedRemedy

Consider placing a single statement at the start of this subclause. Suggestion of adding a first sentence: "The CLT shall follow continuous pilot placement requirements and procedures as defined in this subclause in their entirety." If yes, then consider replacing the occurences of "shalls" in the subclause with active replacements; e.g. "shall follow" to "follows" or equivalent at editor's discretion.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment #3247

Cl **101** *SC* **101.4.3.10** *P* **191** *L* **1** # 3277

Laubach, Mark Broadcom

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

This sub clause is duplicative of 101.4.3.8

SuggestedRemedy

Remove blank subclause 101.4.3.10.
Remove blank subclause 101.4.3.12 and add "and pre-equalization" to end of next subclause title.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.13.1** *P* **191** *L* **28** # 3250

Remein, Duane Huawei Technologies

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

Eq 101-24 and the subsequent para (below) are a bit confusing. How does Ck(i) and Ak(i) relate to EQ_CoefR(k) and EQ_CoefI(k)?
"where Ck(i) is the pre-equalizer coefficient of the k-th subcarrier as used in the last probe transmission, Ck(i+1) is the updated pre-equalizer coefficient of the k-th subcarrier and Ak(i) is the coefficient information received via the PHY Link update. "×" indicates a complex multiplication. The variables EQ_CoefR(k) and EQ_CoefI(k) are updates to the real and imaginary (respectively) coefficient values in the form of I+jQ where I and Q are both using 16-bit fractional two's complement notation (Q2.14 format)."

SuggestedRemedy

change to read:
"... and Ak(i) is the coefficient update, variables EQ_CoefR(i) and EQ_CoefI(i) (see 101.4.3.13.2), received via the PHY Link. The symbol "×" indicates a complex multiplication."
Note the removed info on update variables is in the subclause referenced.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **101** *SC* **101.4.3.14** *P* **192** *L* **33** # 3294

Laubach, Mark Broadcom

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

Table 101-17 and 101-18 are using different fonts for table column headers.

SuggestedRemedy

As per comment, editor's discretion to remedy font issues.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Font in Table 101-18 is to large.

Cl **101** *SC* **101.4.3.3** *P* **179** *L* **47** # 3216

Remein, Duane Huawei Technologies

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

The following statement needs to be updated now that we have no time interleaver:
"Each Resource Block is composed of one subcarrier and has a duration identical to the time interleaver period as set using the RBsize variable, of either 8 or 16 symbols. See RB size parameter in the 10GPASS-XR US OFDM control register 45.2.1.110.1. Changing the Resource Block duration results in a network restart."

SuggestedRemedy

change to:
"Each Resource Block is composed of one subcarrier and has a duration of either 8 or 16 symbols and is set using the RBsize variable. Changing the Resource Block duration results in a network restart."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See related comment #3307

Add an Editors note @@ Where? @@:
EDITORS NOTE (to be removed prior to publication): We should create a normative list of variables that cause a network restart when changed.

Cl **101** *SC* **101.4.3.3** *P* **179** *L* **50** # 3307

Laubach, Mark Broadcom

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

Change references or remove where pointing to Clause 45. Maybe point to Table 101-3 or do away with the reference entirely.

SuggestedRemedy

Suggest doing away with the reference to Clause 45.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See response to Comment #3216

Cl **101** *SC* **101.4.3.4** *P* **182** *L* **24** # 3330

Laubach, Mark Broadcom

Comment Type **T** *Comment Status* **D** *Review MinUS_SC*

Need to add minimum number of pilots for use by upstream Probe into Table 101-13.

SuggestedRemedy

Add a new row to Table 101-13: "Minimum number of combined active and unused subcarriers for Probe", "180", "<blank>" or "subcarriers".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See Cmt #3308

Cl **101** *SC* **101.4.3.4** *P* **182** *L* **29** # 3308

Laubach, Mark Broadcom

Comment Type **T** *Comment Status* **D** *Review MinUS_SC*

Table 101-13.

Line 26: Upstream does not have exclusion band or contiguous group requirementes. OFDM channel bandwidth is specified as minimum 10 MHz in Table 100-11, so "40" subcarriers here creates confusion.

Line 29: What is value for TBD? Note no corresponding percentage requirement in D3.1 upstream. CLT will control percentage needed for proper upstream receiver operation.

Page 157:
Also need to look at Table 101-8 want to borrow some terminology from D3.1 and update the table. Page 157, Line 5, we don't define "group" anywhere. Also need minimum size exclusion band.

SuggestedRemedy

Page 182:
Line 26: remove "Minimum number of active subcarriers in a contiguous group" row from table.
Line 29: remove "Maximum excluded spectrum in the encompassed spectrum" row from table.

Page 157:
Line 5: change "group" to "modulation band"
Line 5: Add new table row: Parameter: "Minimum number of subcarriers in an exclusion band" Limit: "20" Unit: <blank> or write in "subcarriers" where appropriate.
Page 156, Line 49. Insert "Exclusion bands separate contiguous modulation bands." before the last sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
We need at least 128 contiguous subcarriers for US Discovery Response. (see pg 232 ln 35)
Change 40 to 128 at row "Minimum number of active subcarriers …"
Remove row "Maximum excluded spectrum… " at line 29 per comment.

See Cmt #3330

Cl **101** *SC* **101.4.3.6** *P* **184** *L* **37** # 3324

Laubach, Mark Broadcom

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

laubach_3bn_10_0315.pdf (laubach_3bn_10_0315.fm) contains the upstream symbol mapper draft text as per TQ #148.

SuggestedRemedy

Insert the upstream symbol mapper draft text from laubach_3bn_10_0315.pdf for subclause 101.4.3.6.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The proposal has several issues (see remein_3bn_22_0315.pdf, a marked-up version of laubach_3bn_10_0315.pdf)

Cl **101** *SC* **101.4.3.9.3** *P* **188** *L* **11** # 3286

Laubach, Mark Broadcom

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

Modify start burst marker 0xFFFF and 0xFFFFF encoding to indicate first bit of first RE, all other values reserved.

SuggestedRemedy

Add new paragraph "The setting of 0xFF and 0xFFF respectively in the two start burst markers designates that the first bit of data for the burst starts in the MSB bit of the first usuable data resource element in the recource block immediately following the start burst marker. All other values and designations are reserved."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"The start burst marker setting of 0xFF and 0xFFF in RB Frames of size 8 and 16 respectively designates that the first bit of data for the burst starts in the MSB bit of the first usuable data resource element in the recource block immediately following the start burst marker. All other values and designations are reserved."

Cl **101** *SC* **101.4.4..7** *P* **183** *L* **45** # 3249

Remein, Duane Huawei Technologies

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

These two sentences say the same thing in differing detail.
"Low Density Pilots contain data but at a bit loading lower than what the resource element would normally use. The Low Density Pilot resource element is modulated using the higher modulation order of either BPSK or 4 bits lower than the bit loading specified in the ModTypeSC(n) variable for that subcarrier. "

SuggestedRemedy

Keep the last sentence and strike the first.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.1.8** *P* **209** *L* **20** # 3319

Laubach, Mark Broadcom

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

Variables need to be added for FEC decode counters. There is no subclause for PHY Link FEC decoder.

SuggestedRemedy

Suggest adding: DSPL and USPL prefix for FecCodeWordCount, FecCodeWordSuccess, FecCodeWordFail, similar to Clause 101 names. Create a new subclause for PHY Link FEC decoder. Editor to create appropriate text (only, no SD required) that describes the above counter operation in CLT and CNU receivers.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The PHY Link does not have a CRC associated with each FEC codeword as in the data path but rather has CRC's associated with each message type.
Define message and CRC error counters and add 8 new registers in Cl 45 as shown in remein_3bn_21_0315.pdf

Cl **102** *SC* **102.2.3.1** *P* **216** *L* **33** # 3323

Laubach, Mark Broadcom

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

The second and third paragraph here detail how the CNU does new profile activation, yet the subclause title doesn't reflect this.

SuggestedRemedy

Suggest changing title "DS EPoC PHY Frame Header" to "DS EPoC PHY frame header and CNU new profile activation"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
We also describe RF_ID, DA & Timestamp fields in this section.
Add L5 headers
pg 216 ln 32:
102.2.3.1.1 Configuration ID and profile activation.
Pg 217 ln 30
102.2.3.1.2 Response Frame ID
pg 217 ln 34
102.2.3.1.3 PHY Link DA
102.2.3.1.4 PHY Timestamp

Cl **102** *SC* **102.2.3.1** *P* **216** *L* **4** # 3310

Laubach, Mark Broadcom

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

Need to update "{ref}".

SuggestedRemedy

Update "{ref}" to a cross reference to any new CL 101 subclause on upstream timestamp insertion that may be adopted by the TF.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Page 218
Cannot be accepted until such time as a timestamp section is proposed.
Rationalize with accepted contributions

Cl **102** *SC* **102.2.5** *P* **221** *L* **30** # 3221

Remein, Duane Huawei Technologies

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

Need to provide a variable and register to indicate the time required for CNU to respond to the DS PHY Link

SuggestedRemedy

NOT FINAL

May not submit

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change TBD to 5.1 ms
This value is derived from the length of one superframe minus 16 symbols (Max RB size) and the 6 Probe symbols.
TBD = (262-6-16)*20us = 4.8 ms
This will ensure that the CLT can designate an US response window within the size limit of Response Frame ID (RF_ID), which is 8 bits.
If this minimum time is deamed to be too short for the CNU PHY then we will need to take steps to allow US responses that take more than one Superframe. This will impact RF_ID field, EPCH message, and require creation of an US_Superframe counter.

We might want to consider creating a variable that the CNU can pass to the CLT to indicate what it's min response time is if it can be shorter than this.

Cl **102** *SC* **102.2.6.5** *P* **224** *L* **12** # 3322

Laubach, Mark Broadcom

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

Subclauses 102.2.6.5 Timers and 102.2.6.6 Messages have no text or TBD.

SuggestedRemedy

Remove these textless subclauses if no text is provided in another comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.4.1.4** *P* **234** *L* **24** # 3275

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **D** *Nrp/Ncp*

"NCP" should be USNcp Cl 102 Fig 102-21 pg 234 ln 24

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.4.1.7.3** *P* **237** *L* **42** # 3270

Remein, Duane Huawei Technologies

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

SC_Cnt cannot start at 0 and go to 4096

SuggestedRemedy

Change 4096 to 4095

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.4.1.7.7** *P* **237** *L* **14** # 3311

Laubach, Mark Broadcom

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

Figure CNU PHY Discovery Response Transmission control state diagram. Need to resolve the TBD in "rnd(TBD)".

SuggestedRemedy

Part of TBD resolution.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Define a provisioned parameter (create variable, add to Cl 45, add to Table 102-1, 102-13).

Cl 45.2.1.110 add:
"1.1907.15:8 | Rnd | Random back-off seed for PHY Discovery | R/W"
"45.2.1.110.1 Rnd (1.1907.15:8)
Register bits 1.1907.15:8 form an 8-bit integer that is used by the CNU for the seed of the back-off algorithm. These bits are a reflection of the Rnd variable defined in 102.4.1.7.2." renumber as needed.

Add to Table 102-3
"Rnd | US OFDM control | 1.1907.15:8 | Rnd | 7 | 15:8"

In 102.4.1.7.2 add
"Rnd
TYPE: 8-bit integer
This variable is used as a seed in the back-off algorith for the PHY Discovery Response."

In Figure 102–23 replace "TBD" with "Rnd"

Cl **102** *SC* **102.4.2.6** *P* **241** *L* **21** # 3251

Remein, Duane Huawei Technologies

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

Updates to Wideband probing SD & variables.

SuggestedRemedy

See remein_3bn_11_0315.pdf & remein_3bn_11_0315CMP.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.4.3** *P* **245** *L* **16** # 3218

Remein, Duane Huawei Technologies

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

Are the following variables needed at the CNU for Link-up declaration?
Type2_Repeat
Type2_Start
Type1_Repeat
Type1_Start

SuggestedRemedy

Add to Table 102–13 mark both PHY Discovery and Link-Up as "Y"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **102** *SC* **102.4.3** *P* **245** *L* **7** # 3219

Remein, Duane Huawei Technologies

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

In table 102-13 US_BlockTypeSC(0) through US_BlockTypeSC(TBD) are not used in draft.

SuggestedRemedy

strike row

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.0.0.0** *P* **251** *L* **1** # 3313

Laubach, Mark Broadcom

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

Rate calcuations that were added were based on 10GEPON sub layer definitions, in EPoC, much of what was in the PMD is in our PMA.

SuggestedRemedy

Change "PMD" to "PMA" where appropriate to reflect correct sublayer for overheads, calculations, etc. Editor's discretion.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Pg	Ln	Action
263	20	PMD -> PHY
266	10	PMD_Overhead -> PHY_Overhead (global)
266	14	none
267	5	none
279	31	none
279	38	none
280	11	none
280	15	none
280	16	none
302	53	none
308	2	none

Fig 103-2 no change
Editors notes no change

Cl **103** *SC* **103.2.2.1** *P* **262** *L* **2** # 3244

Remein, Duane Huawei Technologies

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

Two definitions for FEC CW size which are nearly identical. These need to be more clearly differentiated.
FEC_CODEWORD_SIZE
TYPE: integer
This constant represents the size of FEC codeword in octets (FEC_PAYLOAD_SIZE + FEC_PARITY_SIZE).
Value: 1987
FEC_CODEWORD_SIZE_FRAC
TYPE: real number
This constant represents the exact size of the FEC codeword in octets.
Value: 1760+2944/13
This is confusing.

SuggestedRemedy

NOT FINAL

Change definitions as show below
FEC_CODEWORD_SIZE
TYPE: integer
This constant represents the approximate size of the downstream FEC codeword in whole octets (FEC_PAYLOAD_SIZE + FEC_PARITY_SIZE).
Value: 1987

FEC_CODEWORD_SIZE_FRAC
TYPE: real number
This constant represents the exact size of the FEC codeword in whole and fractional octets.
Value: 1760+2944/13 (1760 +(1840*64/65/8)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.1** *P* **262** *L* **2** # 3237

Remein, Duane Huawei Technologies

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

derivation of values for FEC_PARITY_SIZE and FEC_PAYLOAD_SIZE can be less obfuscated.

SuggestedRemedy

NOT FINAL

Change value for
FEC_PARITY_SIZE from
"227" to

and for FEC_PAYLOAD_SIZE from
"1760" to "1760 (220 block of 64-bits as seen from the MAC Table 101-2)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.1** *P* **262** *L* **3** # 3243

Remein, Duane Huawei Technologies

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

FEC_CODEWORD_SIZE, FEC_PARITY_SIZE and FEC_PAYLOAD_SIZE are only constants in the DS direction. In the US these will vary depending on OctetsRemaining

SuggestedRemedy

For DS change existing constant names, via global search & replace to:
DS_FEC_CW_Sz
DS_FEC_PrtySz
DS_FEC_PldSz
Change the definition of each of these constants by replacing
"the size of FEC codeword" with
"the size of the downstream FEC codeword"

Add new functions:
US_FEC_CW_Sz(OctetsRemaining)
This function returns an integer that represents the size of upstream FEC codeword in octets (FEC_PAYLOAD_SIZE + FEC_PARITY_SIZE) depending on the size of OctetsRemaining.
{
If OctetsRemaining > 0 and OctetsRemaining < 192 then US_FEC_CW_Sz = 1120/8
ElseIf OctetsRemaining > 193 and OctetsRemaining < 800 then US_FEC_CW_Sz = floor(5940/8)
Else US_FEC_CW_Sz = 16200/8
}

US_FEC_PrtySz(OctetsRemaining)
TYPE: integer
This function returns an integer that represents the size of upstream FEC codeword parity field in octets depending on the size of OctetsRemaining.
{
If OctetsRemaining > 0 and OctetsRemaining < 192 then US_FEC_PrtySz = 280/8
ElseIf OctetsRemaining > 193 and OctetsRemaining < 800 then US_FEC_PrtySz = ceiling(900/8)
Else US_FEC_PrtySz = 1800/8
}

US_FEC_PldSz(OctetsRemaining)
TYPE: integer
This function returns an integer that represents the size of upstream FEC codeword payload in octets depending on the size of OctetsRemaining.
{
If OctetsRemaining > 0 and OctetsRemaining < 192 then US_FEC_PldSz = (840-40)/8
ElseIf OctetsRemaining > 193 and OctetsRemaining < 800 then US_FEC_PldSz = (5040-40)/8
Else US_FEC_PldSz = (14400-40)/8
}

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
As proposed for DS constants.
Functions to be addressed with US Idle deletion defintion (volunteer needed!).

Cl **103** *SC* **103.2.2.3** *P* **263** *L* **21** # 3346

Remein, Duane Huawei Technologies

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

Several errors in this definition:
"A variable that advances by one after every octet time. After reaching the value of FEC_CODEWORD_SIZE, this variable is held for a period of time for PMD derating and then reset to zero. A state diagram of fecOffset behavior is illustrated in Figure 103–9.
In the CLT, this variable is initialized to 0 at system initialization. In the CNU, this variable {fecOffset] is assigned in the GATE Processing CNU Activation state diagram (see Figure 103–30)."
We have added Figure 103–9—fecOffset state diagram which sets this variable for the CLT.
For CNU the Title and Ref are both incorrect. fecOffset is not mentioned in Figure 103–30.
In P802.3bx D2.1 the title is used but the figure reference is to Fig 77-14 (our Fig 103-14).

For Ref here is the definition from 802.3bx D1.2
"A variable that advances by 1 after every 8 bit times. After reaching the value of FEC_CODEWORD_SIZE, this variable is reset to zero. In the OLT, this variable is initialized to 0 at system initialization. In the ONU, this variable is assigned in the GATE Processing ONU Activation state diagram (see Figure 77–14)."

SuggestedRemedy

Change to read:
"A variable that advances by one after every octet time. In the CLT, after reaching the value of FEC_CODEWORD_SIZE, this variable is held for a period of time for PMD derating and then reset to zero as illustrated in Figure 103–9. In the CNU, this variable is assigned in Figure 103-14 CNU Control Multiplexer state diagram" (use full ref in FrameMaker).

Change title of Figure 103-9 from
"fecOffset state diagram"
to:
"CLT fecOffset state diagram"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.4** *P* **265** *L* **27** # 3312

Laubach, Mark Broadcom

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

Is CheckGrantSize(length) being used.

SuggestedRemedy

Removed if not being used.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Used in Figure 103–14

Cl **103** *SC* **103.2.2.4** *P* **266** *L* **32** # 3344

Remein, Duane Huawei Technologies

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

PCS_Rate is not defined in this clause.

SuggestedRemedy

Add to 103.2.2.3
PCS_Rate
See 101.3.2.1.2 and Eq 101–2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.7** *P* **268** *L* **22** # 3347

Zhang, Jin Marvell Semiconductor

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

In Fig. 103-9, the exit condition of "START_DERATING_TIMER" should not be UCT. It should wait until the timer expires.

SuggestedRemedy

Change the exit condition for the box "START_DERATING_TIMER" to be "derating_timer_done".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.7** *P* **268** *L* **7** # 3332
Zhang, Jin Marvell Semiconductor

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

In the box "B-1" should be "beta-1"

SuggestedRemedy

Replace B to beta (greek letter)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.2.2.7** *P* **273** *L* **5** # 3345
Remein, Duane Huawei Technologies

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

P802.3bx is modifying Cl 77. We should rationalized these changes complementary changes to Cl 103.

SuggestedRemedy

In Figure 77-14 (Eq to Fig 103–14)
IdleCount is changed to IdleGapCount (ln 5, 11 & 16)

Added to 77.2.2.3 (eq to 103.2.2.4)
IdleGapCount
TYPE: 32-bit unsigned
This variable represents length of gap between subsequent frames, expressed in the unit of octet time. This variable advances by 1 after every 8-bit times.

ResetBound
TYPE: 32-bit unsigned
This variable represents the value of DelayBound (see 76.3.1.2) expressed in units of octet time (i.e., ResetBound = 8 * DelayBound).

In Figure 77-29 in PARSE GATE added "then" (this has already been done in Figure 103-29).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **103** *SC* **103.3.3** *P* **275** *L* **51** # 3291
Laubach, Mark Broadcom

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

What is all the yellow highlight text mean?

SuggestedRemedy

Suggestion: Describe why text is highlighted in the editors note on Line 49, or remove highlight.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change Editors note to read:
"Highlighted material below on Discovery processing and State diagrams needs to be rationalized with CL 101 and 102. If no comments are received on this material in the next comment round it will be assumed that no rationalization is needed and highlighting and this note will be removed."

Cl **45** *SC* **45** *P* **27** *L* **3** # 3233
Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D** *Cl 45 Renum*

After consulting with the WG Secretary I believe that 802.3bx is sufficiently stable that we can make this change now so as to catch any editorial errors before WG ballot.
EDITORS NOTE (to be removed prior to publication): Paragraph and register numbering will need to be reviewed and updated after release of 802.3 2015.

SuggestedRemedy

Renumber Cl 45 as follows
45.2.1.13a -> 45.2.1.14a
Table 45-15b -> 45.17a
45.2.1.107 -> 45.2.1.131 renumber subsequent subclauses as appropriate
Table 45–78a -> Table 45–98a renumber subsequent Tables as appropriate
Update Editorial notes as appropriate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See topic Cl 45 Renum

Cl **45** *SC* **45.2.1** *P* **30** *L* **1** # 3239

Remein, Duane Huawei Technologies

Comment Type **ER** *Comment Status* **D** *Cl 45 Renum*

Align Cl 45 numbering with 802.3bx draft.

SuggestedRemedy

Change 45.2.1.13b to 45.2.1.14a & renumber subsequent sections
Change Table 45-15b to 17a
Change 45.2.1.107 to 45.2.1.131 & renumber subsequent sections
Change Table 45-78a to 45-98a & renumber subsequent sections
(as shown in remein_3bn_17_0315.pdf)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See topic Cl 45 Renum

Cl **45** *SC* **45.2.1** *P* **31** *L* **8** # 3271

Remein, Duane Huawei Technologies

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

DS PHY data rate Register naming is inconsistent:
Table 45–3 pg 31 ln 8 DS PHY data Rate
45.2.1.123 pg 47 ln 20, 22 & 29 DS data rate (Also in Table 45-78q)
Table 100-1 Pg 81 ln 8,11,13 DS PHY data rate & DS data rate
Table 101-1 Pg 112 Ln 47, 50, 52 DS PHY data rate & DS data rate

Likewise US PHY data rate
Table 45–3 pg 31 ln 10 US Phy data Rate
45.2.1.124 pg 47 ln 49 US PHY data rate
45.2.1.124 pg 47 ln 51 & pg 48 ln 1, 5 US data rate (also in Table 45-78r)
Table 100-1 Pg 81 ln 15,18,20 US PHY data rate & US data rate
Table 101-1 Pg 113 Ln 7, 9, 12 US PHY data rate & US data rate

SuggestedRemedy

Consistently use
US PHY data rate &
DS PHY data rate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.10.17** *P* **36** *L* **20** # 3341

Remein, Duane Huawei Technologies

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

For each register field in 45.2.1.107-45.2.7a the has a corrisponding variable in Cl 100, 101 or 102 replace any reference to Cl 100, 101 or 102 with the following:
"This register {These register bits} is{are} a reflection of the variable_name defined in {ref}."
Wherever possibl e{Ref} shoul dpoint to the para where the variable is defined.

SuggestedRemedy

Made technical due to extent of change.
per comment.

Use topic VarXRef

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.107.1** *P* **36** *L* **24** # 3197

Remein, Duane Huawei Technologies

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

Ref to 101.4.3.8 incorrect

SuggestedRemedy

change to 101.4.2.5.4

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Use 101.4.2.5.5 (where param CntPltSF is defined)
See topic VarXRef

Cl **45** *SC* **45.2.1.108** *P* **37** *L* **12** # 3198

Remein, Duane Huawei Technologies

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

this statement is slightly misguided
"Sets the CLT output port to a muted state for text purposes"

SuggestedRemedy

change text to test

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.110.1** *P* **40** *L* **41** # 3213

Remein, Duane Huawei Technologies

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

Duplicate definitions
Register bit 1.1907:7 indicates the number of OFDM symbols in a Resource Block in the upstream direction. When this bit is set to a zero there are 8 symbols per Resource Block. When this bit is set to a one there are
16 symbols per Resource Block.

101.4.4.3.3 pg 182 ln 1
RBsize
TYPE: boolean
This variable determines the size of the upstream Resource Blocks. When RBsize is TRUE then Resource Block size is 16 symbols, When RBsize is FALSE then Resource Block size is 8 symbols.
EDITORS NOTE (to be removed prior to publication): This definition duplicates that in Cl 45.2.1.110. Only one should be kept.

SuggestedRemedy

change 45.2.1.110.1 to read:
Register bit 1.1907:7 indicates the number of OFDM symbols in a Resource Block in the upstream direction. This bit is a reflection of RBsize defined in 101.4.4.3.3."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.112.4** *P* **42** *L* **14** # 3214

Remein, Duane Huawei Technologies

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

Type 1 Start is between 0 and 15 not 0 and 31

SuggestedRemedy

change 31 to 15

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.118** *P* **45** *L* **25** # 3240

Remein, Duane Huawei Technologies

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

R/O s/b RO (4x)

SuggestedRemedy

per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.119** *P* **46** *L* **2** # 3272

Remein, Duane Huawei Technologies

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

Wording
"Register 1.1921.15 through 1.1921.0 represent the DS PHY Link frame count"
and
"The assignment of bits in the DS PHY Link frame counter bit definition is shown in Table 45–78m"

SuggestedRemedy

Change to
"Register 1.1921 is the DS PHY Link frame counter"
and
"The assignment of bits in the DS PHY Link frame counter register is shown in Table 45-78m"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.120** *P* **46** *L* **20** # 3230

Remein, Duane Huawei Technologies

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

Wording:
"Registers 1.1923 through 1.1922 form ... "

SuggestedRemedy

change to:
"Registers 1.1923 and 1.1922 form ... "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.120** *P* **46** *L* **27** # 3278

Laubach, Mark Broadcom

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

Remove "bit definitions" from title.

This comment was captured during Clause 45 walking through on the socialization conference calls. I neglected to get more detail. So am unsure of the remedy, other than a suggestion to remove "bit definitions" from figure titles?

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change
"45.2.1.119 DS PHY Link frame counter bit definitions (Register 1.1921)"
to
"45.2.1.119 DS PHY Link frame counter (Register 1.1921)"

Cl **45** *SC* **45.2.1.121** *P* **46** *L* **47** # 3231

Remein, Duane Huawei Technologies

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

Table title inconsistent with text.

SuggestedRemedy

Change from:
Table 45–78o—Phy power offset bit definitions
to
Table 45–78o—PHY power offset bit definitions

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Captalize PHY

Cl **45** *SC* **45.2.1.122** *P* **47** *L* **5** # 3224

Remein, Duane Huawei Technologies

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

There is no Xref for:
This is used to provision a delay in the ranging response in the event there is an analogue optical segment between the CLT and the CNUs as described in {ref}.

SuggestedRemedy

Add
"EDITORIAL NOTE (to be removed prior to publication): the care and feeding of this register and it's associated variable is not defined anywhere in the draft."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add to 102.4.1.7.2
RngOffset
TYPE: 32-bit integer
This variable is used to provision a delay in the ranging response in the event there is an analogue optical segment between the CLT and the CNUs as described in 102.4.1.4.

Add to 102.4.1.4 at pg 232 ln 41
"In the event there is an analog fiber segment between the CLT and CNU the CLT can delay the PHY Discovery Response by the amount of time specified in RngOffset."

Cl **45** *SC* **45.2.1.125** *P* **48** *L* **26** # 3223

Remein, Duane Huawei Technologies

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

Xref update for:
See {ref} for a definition of this register

SuggestedRemedy

Change {ref} to "variable FecCodeWordCount in 101.3.3.1.5 and Table 101-1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See topic VarXRef
See Response to comment #3316

Cl **45** *SC* **45.2.1.125** *P* **48** *L* **27** # 3316

Laubach, Mark Broadcom

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

Line 27 and 50 "{ref}" needs to be defined.

Page 46, Line 19. same comment.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Changed to Pg 48 (was 2748) 2nd ref should be pg 49 ln 19
See topic VarXRef

Pg 48 Ln 27 change
"See {ref} for a definition of this register."
to
"These registers are a reflection of the variable FecCodeWordCount defined in 101.3.3.1.5."

Pg 48 Ln 50 change
"See {ref} for a definition of this register."
to
"These registers are a reflection of the variable FecCodeWordSuccess defined in 101.3.3.1.5."

pg 49 ln 19 change
"See {ref} for a definition of this register."
to
"These registers are a reflection of the variable FecCodeWordFail defined in 101.3.3.1.5."

Cl **45** *SC* **45.2.1.126** *P* **48** *L* **50** # 3225

Remein, Duane Huawei Technologies

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

Xref update for:
See {ref} for a definition of this register.

SuggestedRemedy

Change {ref} to "variable FecCodeWordSuccess in 101.3.3.1.5 and Table 101-1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See topic VarXRef
See Response to comment #3316

Cl **45** *SC* **45.2.1.127** *P* **48** *L* **20** # 3226

Remein, Duane Huawei Technologies

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

Xref update for:
See {ref} for a definition of this register.

SuggestedRemedy

Change {ref} to "variable FecCodeWordFail in 101.3.3.1.5 and Table 101-1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See topic VarXRef
See Response to comment #3316

Cl **45** *SC* **45.2.7a.3** *P* **53** *L* **20** # 3215

Remein, Duane Huawei Technologies

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

This statement could be clearer:
"Each number is a 16-bit signed fractional two's complement number."

SuggestedRemedy

Change to "Each number is a 16-bit signed fractional number conforming to the Q2.14 format."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.4** *P* **54** *L* **12** # 3292

Laubach, Mark Broadcom

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

"the" is spelled wrong in second line of second description in table.

Register numbering should start in 45.2.7a.4.1 "12.10240" not "12.240" Is correct in descriptions.

SuggestedRemedy

Line 12: change "teh" to "the".
Line 28: subtitle problem "12.240.2:0" should be "12.10240.2:0".
Editor's discretion to review and correct any register numbering issues.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7a.5** *P* **54** *L* **48** # 3199

Remein, Duane Huawei Technologies

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

The referenced register should be 12.10241.
"same bit structure as that of register 12.10242."

SuggestedRemedy

change The remaining registers
12.10242 to 12.10241

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change the end of the sentence from
"of register 12.10242"
to
"of register 12.10241"

Cl **67** *SC* **67.1** *P* **67** *L* **27** # 3315

Laubach, Mark Broadcom

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

Need to resolve TBD's or not modify Clause 67. Nominal reach is first defined in ammendments to Table 56-1, page 63 as "2.9 km" with table footnote of "Maximal differential distance between CNUs. Reach may vary depending on the CCDN."

Note that Table 67.1 has not been updated with other EPON PHY standards that increase split ratio beyond 1:16, e.g. 1:32, 1:64. Since EPoC does not specify the maximum number of CNUs, the number of PHYs = CLT PHY + N * CNU PHYs is not readily quantifiable into this table format.

SuggestedRemedy

Consider 1 of 2 choices:
Choice 1: do not modify Clause 67 and remove from our draft.
Choice 2: try to fill in the TBD's with something that makes some sense:
Page 67, Lines 27 and 28, replace nominal reach TBDs with "2.9" and add a table footnote same as "i" from Table 56-1. Note now that this is duplicative of the changes to Table 56-1.
Page 67, Lines 27 and 28, replace number of PHYs TBD with "variable" and a new table footnote "Based on cable operator's CCDN configuration, the number of PHYs will be the CLT PHY plus each CNU PHY." or similar.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TF needs to decide on CL 67 Table 67-1. Also consider removing changes to 67.3.

Cl **76** *SC* **67.6.3** *P* **69** *L* **21** # 3200

Remein, Duane Huawei Technologies

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

Unlinked ref to 103.3.3.2

SuggestedRemedy

make it a live link (103.3.3.2 is correct).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
It is a live link when tested to 103.3.3.2. Need to change color from magenta to black.

Cl **76** *SC* **76** *P* **72** *L* **54** # 3295

Laubach, Mark Broadcom

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

Fix master page copyright from 2013 to 2015.

SuggestedRemedy

As commented.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **99** *SC* **99** *P* **1** *L* **9** # 3339

Remein, Duane Huawei Technologies

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

Change "Ammendment X:" to "Ammendment:" per latest template

SuggestedRemedy

per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.