Cl **1** *SC* **1.4.277a** *P* **28** *L* **47** # i-1

Anslow, Peter Ciena Corporation

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

The P802.3bq amendment is expected to be approved before 802.3bn. The P802.3bq draft is inserting a new definition for "MultiGBASE-T" which should be 1.4.277a . P802.3bq D3.0 has this as 1.4.277b, but a comment will be submitted to correct this.

SuggestedRemedy

Change the editing instruction to: "Insert the following definition after 1.4.277 "mixing segment" and before 1.4.277a (as inserted by IEEE Std 802.3bq-201x) as follows:"
Change the definition to be 1.4.277aa

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.294b** *P* **29** *L* **5** # i-2

Anslow, Peter Ciena Corporation

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

"optical distribution network (ODN)" should be after 1.4 296 "Operations, Administration, and Maintenance (OAM)"

SuggestedRemedy

Renumber 1.4.294b to 1.4.296a and add appropriate editing instruction

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.3.5.1.3** *P* **32** *L* **11** # i-3

Anslow, Peter Ciena Corporation

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

Text has been added to say "When this attribute has the enumeration "CLT", the interface acts as a CLT. When this attribute has the enumeration "CNU", the interface acts as a CNU."
However, the APPROPRIATE SYNTAX section of 30.3.5.1.3 only has enumerations of "OLT" and "ONU"

SuggestedRemedy

Add enumerations of "CLT" and "CNU" to the APPROPRIATE SYNTAX section of 30.3.5.1.3

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.14aa** *P* **38** *L* **17** # i-4

Anslow, Peter Ciena Corporation

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

In "Insert 45.2.1.14aa and Table 45-17aa after 45.2.1.14a as inserted by IEEE Std 802.3by-201x as follows:", "after" should be "before".

SuggestedRemedy

Change "after" to "before".

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **1** *L* **1** # i-5

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+ Sed*

Based on IEEE P802.3by entering sponsor ballot in November 2015, IEEE P802.3bq and IEEE P802.3bp entering sponsor ballot in December 2015, the published timeline for IEEE P802.3bq showing approval in June 2016, and the published timeline for IEEE P802.3bp showing approval in August 2016, it seems likely that that IEEE P802.3by will be the second amendment, IEEE P802.3bq will be the third amendment, and IEEE P802.3bn will be the fifth or sixth amendment to IEEE Std 802.3-2015.

SuggestedRemedy

Please change '(Amendment of IEEE Std 802.3(TM)-2015)' to read 'Amendment of IEEE Std 802.3(TM)-2015 as amended by IEEE Std 802.3bw(TM)-2015), IEEE Std 802.3by(TM)-201X, IEEE Std 802.3bq(TM)-201X, IEEE Std 802.3bp(TM)-201X"
Keep the list updated as project status changes

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **13** *L* **14** # i-6

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+ Sed*

Suggest that this text be updated based on: (a) the approval of IEEE Std 802.3bw-2015, the likelihood that IEEE P802.3by will be the second amendment, IEEE P802.3bq will be the third amendment, and IEEE P802.3bp will be the fourth amendment to IEEE Std 802.3-2015; (b) use of the (TM) symbol only on the first instance; and (c) alignment of IEEE P802.3bn description with other amendment descriptions

SuggestedRemedy

[1] The following text should be inserted prior to the existing text 'IEEE Std 802.3bn(TM)-201x':
IEEE Std 802.3bw-2015
Amendment 1--This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 96. This amendment adds 100 Mb/s Physical Layer (PHY) specifications and management parameters for operation on a single balanced twisted-pair copper cable.
IEEE Std 802.3by-201x
Amendment 2--This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 105 through Clause 112, Annex 109A, Annex 109B, Annex 110A, Annex 110B, and Annex 110C. This amendment adds MAC parameters, Physical Layers, and management parameters for the transfer of IEEE 802.3 format frames at 25 Gb/s.
IEEE Std 802.3bq-201x
Amendment 3--This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 113 and Annex 113A. This amendment adds new Physical Layers for 25 Gb/s and 40 Gb/s operation over balanced twisted-pair structured cabling systems.
IEEE Std 802.3bp-201x
Amendment 4--This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 97 and 98. This amendment adds point-to-point 1 Gb/s Physical Layer (PHY) specifications and management parameters for operation on a single balanced twisted-pair copper cable in automotive and other applications not utilizing the structured wiring plant.

[2] Insert "Amendment 5--" before the current descriptive text for IEEE Std 802.3bn(TM)-201x

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Per comment except [2] (WG Chair has not yet announced the order of this amendment)

Cl **1** *SC* **1.4.331** *P* **29** *L* **16** # i-7

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *ML/GK*

Strike statement: "Frames transit the network between the central station and the end stations and do not transit directly from end station to end station." - we do not restrict ONU/CNU to ONU/CNU communication, if one desired to deploy links between them - these are outside of the scope of our definitions.

SuggestedRemedy

per comment

Response *Response Status* **W**

REJECT.
ONU/CNU to ONU/CNU communication is not supported any P2MP PHY and such communication is done through a bridge above 802.3.

Cl **30** *SC* **30** *P* **31** *L* **1** # i-8

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+*

Suggest the editing instructions be updated listing the expected approval order for any objects modifying selected attributes.
This helps the reader understand that this object is being modified by multiple projects, and also help staff editorial combine individual amendments into a single base document down the road
This applies to aPhyType, aPhyTypeList, aMAUType

SuggestedRemedy

For example, aPhyType is being modified by all 5 amendments (this one and 4 previous ones):
Change "Insert in alphanumeric order a single line for "10GPASS-XR" type into the APPROPRIATE SYNTAX
list of 30.3.2.1.2 aPhyType as shown below." to Insert in alphanumeric order a single line for "10GPASS-XR" type into the APPROPRIATE SYNTAX
list of 30.3.2.1.2 aPhyType (as modified by IEEE Std 802.3bw-2015, IEEE Std 802.3by-201X, IEEE Std 802.3bq-201X, and IEEE Std 802.3bp-201X) as shown below.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Insert "(as modified by IEEE Std 802.3bw-2015, IEEE Std 802.3by-20xx, IEEE Std 802.3bq-20xx, and IEEE Std 802.3bp-20xx)"
Note this is the syntax agreed with IEEE staff editors.

Cl **45** *SC* **45.2** *P* **33** *L* **6** # i-9

Hajduczenia, Marek Bright House Network

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

No need to show unchanged rows.

SuggestedRemedy

Change editorial instructions to read: "Change reserved row 12 through 28 as shown below (unchanged rows are not shown)"
Strike rows 0 through 11, 29 through 31

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.131** *P* **39** *L* **1** # i-10

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+REV+ DR Sed Cl45 renum*

Registers 45.2.1.133 through 45.2.1.137 are already allocated by P802.3bw, which will likely be published before .3bn

SuggestedRemedy

move registers 45.2.1.131 - 165 to 45.2.1.138 - 172 and renumber accordingly
Renumber also Tables to make sure there is no conflict with projects in Sponsor Ballot or approved.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Coordinate with other clause 45 editors and change clause numbering as agreed, register numbering remains as is. Tables will be renumbered per comment i-371 (resolution copied below)
Editors to consult with WG Secretary and IEEE staff editors for preferred resolution.

Cl **45** *SC* **45.2.1.144** *P* **49** *L* **32** # i-11

Hajduczenia, Marek Bright House Network

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

You might likely want to list full register number: "Registers 1.1923 and 1922 form an offset"

SuggestedRemedy

Change to "Registers 1.1923 and 1.1922 form an offset"

Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **45.2.1.147** *P* **51** *L* **1** # i-12

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

It is not clear why DS PMA/PMD data rate is chopped up in such an unreadable format: bits 15:0 first, followed by bits 2:0, followed by bits 31:16, followed by Reserved space and followed by bits 36:32
The same applies to Table 45-98r

SuggestedRemedy

Suggest the following order:
1.1927.15:0 -> bits 36:21 (call it fixed, upper)
1.1926:15:0 -> bits 20:5 (call it fixed, middle)
1.1925:15:14 -> bits 4:3 (call it fixed, bottom)
1.1925:13:11 -> bits 2:0 (call it fraction)
1.1925:10:0 -> Reserved
Similar changes for Table 45-98r

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Changed to Cl 00
The mapping assigns the least significant bit to the lowest numbered register/bits and the highest significant numbers to the most significant bits.
Reserved bits are at the logical top of the structure. This is a logical order from a machine readable point of view.
Change the note accompanying tables 100-1, 101-1 & 102-3 regarding MSB/LSB to :
"The least significant bit in each variable is mapped to the lowest numbered bit in the lowest numbered register for Clause 45 registers."

Cl **45** *SC* **45.2.1.149** *P* **52** *L* **1** # i-13

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **R** *+REV+*

Table footnote got separated from table

SuggestedRemedy

Please make sure there are no runaway footnotes to tables

Response *Response Status* **C**

REJECT.
Standards are professionally edited by IEEE editors prior to publication

Cl **45** *SC* **45.2.7a.4** *P* **64** *L* **18** # i-14

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Table 45-98q and Table 45-98r specify order of mapping of fixed and fractional elements of a floating point number. Why is the same not done in Table 45-211e and other table defining pre-equalizer coefficients? Is the mapping intended to start with fixed or fractional part?

SuggestedRemedy

Consider adding details from Table 45-98q/r to make sure that it is clear where fractional and fixed elements of the floating point numbers would be located

Response *Response Status* **W**

REJECT.
This 16-bit number wholly maps into a single MDIO register whereas the numbers in Table 45-98q/r require 3 registers with some spare register bits requiring enumeration of used and spare bits.

Cl **56** *SC* **56.1** *P* **69** *L* **31** # i-15

Hajduczenia, Marek Bright House Network

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

The list of Clauses for 10G-EPON lists PHY and PMD only, while EPoC also lists MPCP for some reason

SuggestedRemedy

Change "Clause 101, Clause 102, and Clause 103" to "Clause 101 and Clause 102"

Response *Response Status* **C**

ACCEPT.

Cl **56** *SC* **56.1.3** *P* **72** *L* **10** # i-16

Hajduczenia, Marek Bright House Network

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

Some spurious "\" in Rate column

SuggestedRemedy

Change "(tx)\h" to "(tx)h" with proper footnote reference format

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.1.4** *P* **83** *L* **32** # i-17

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **R** *+REV+ Sed*

Different ways to specify ranges: "RxMER_SC(4) through RxMER_SC(4095)" but "3050, 3052 ... 11238"

SuggestedRemedy

Use a consistent way, for example: "3050 through 11238"
Apply to all tables in Clause 100, 101, 102 - there are multiple instances

Response *Response Status* **C**

REJECT.
This is setting up a series: 3050, 3052, 3054, . 11238. Changing this to 3050 through would be incorrect and imply 3050, 3051 through 11238.

Cl **100** *SC* **100.2.1.2** *P* **84** *L* **17** # i-18

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+*

"an I / Q value" - it would make more sense to call it "an I/Q value" (no spaces) to avoid line breaking across "I / Q"
Make sure that line breaking on "/" is disabled

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.2.1.2** *P* **84** *L* **20** # i-19

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Text does not match primitive: "PMD_UNITDATA.request(I_value, Q_value, ChNum)" versus "The data conveyed by PMD_UNITDATA.request is a continuous stream of I / Q value pairs." - it is not just I/Q pairs that are being transmitted, but also channel number

SuggestedRemedy

Change "The data conveyed by PMD_UNITDATA.request is a continuous stream of I/Q value pairs and target OFDM channel."
Change "The Clause 101 PMA continuously sends the stream of I / Q value pairs to the Clause 100 PMD for transmission on the medium, at the nominal rate of 204.8 million samples per second (Msps)." to "The Clause 101 PMA continuously sends the stream of I/Q value pairs and OFDM channel number to the Clause 100 PMD for transmission on the medium, at the nominal rate of 204.8 million samples per second (Msps)."
See Figure 101-1 for reference on what is sent to PMD via PMD_UNITDATA primitive
Similar changes needed to 100.2.1.3, where PMD_UNITDATA.indication is defined only in terms of I/Q pairs, omitting OFDM channel information altogether

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED

Change "The data conveyed by PMD_UNITDATA.request is a continuous stream of I/Q value pairs." to
"The data conveyed by PMD_UNITDATA.request is a continuous stream of I/Q value pairs and target OFDM channel."

Change "The Clause 101 PMA continuously sends the stream of I / Q value pairs to the Clause 100 PMD for transmission on the medium, at the nominal rate of 204.8 million samples per second (Msps)." to
"The Clause 101 PMA continuously sends the stream of I/Q value pairs and OFDM channel number to the Clause 100 PMD for transmission on the medium, at the nominal rate of 204.8 million samples per second (Msps)."

In 100.2.1.3 PMD_UNITDATA.indication
Add "and received OFDM channel" to end of sentence on line 33/34.
Add "and OFDM channel number" just after "I / Q value pairs" at line 37.

Cl **100** *SC* **100.2.3** *P* **85** *L* **13** # i-20

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Text "The PMD Receive function conveys the bits received from the MDI to the PMD service interface using the message PMD_UNITDATA.indication(I_value, Q_value), creating appropriately formatted stream of I / Q value pairs." does not match Figure 101-3, where PMD_UNITDATA.indication(I_value, Q_value, ChNum) is shown

SuggestedRemedy

Change text to read "The PMD Receive function conveys the bits received from the MDI to the PMD service interface using the message PMD_UNITDATA.indication(I_value, Q_value, ChNum), creating appropriately formatted stream of I/Q value pairs and OFDM channel information."

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.2.4** *P* **85** *L* **20** # i-21

Hajduczenia, Marek Bright House Network

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

Unclear what "this" is in the statement: "this is not defined for the CLT"

SuggestedRemedy

Change to "PMD_SIGNAL.request(Tx_Enable) message is not defined for the CLT"

Response *Response Status* **C**

ACCEPT.

Cl **100A** *SC* **100A.1** *P* **349** *L* **45** # i-22

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **R** *+REV+*

Figure 100A-1 is intended (I believe) to be an example, rather than a normative representation of EPoC network topology

SuggestedRemedy

Change "Figure 100A-1--EPoC network topology" to "Figure 100A-1--EPoC network topology (example)"

Response *Response Status* **C**

REJECT.
First paragraph explains it. The channel model is based on that topology model.

Cl **100A** *SC* **100A.1** *P* **349** *L* **48** # i-23

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

Reference in lines 49-53 should be converted into entries in Annex A, and then referenced via [XX] references - these are non-normative reference

SuggestedRemedy

Per comment
Change "NOTE - Additional information on cable coaxial network topology can be found in:" to "NOTE - Additional information on cable coaxial network topology can be found in [A] and [B]." update the proper letters, when references are inserted.
Also, apply proper FM style to NOTE - it is in T,Text right now

Response *Response Status* **W**

ACCEPT.

Cl **100A** *SC* **100A.2** *P* **350** *L* **11** # i-24

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R**

PSD is used in 8 locations, but never really defined / expanded

SuggestedRemedy

Please provide expansion on first use and consider adding to list of acronyms in Clause 1

Response *Response Status* **W**

REJECT.
See definition in Clause 1.

Cl **100A** *SC* **100A.2** *P* **350** *L* **7** # i-25

Hajduczenia, Marek Bright House Network

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

Is "HFC Node" the same as "Node"?

SuggestedRemedy

Seems that "Node" is more common. Change all "HFC Node" to "Node"
Also, consider adding definition of what a "Node" is, since it is used under assumption that it is a commonly known definition, which is not the case in 802.3

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
In Fig 100A-1 expand "NODE" to "HFC NODE"
On Pg 350 line 13 change "the EPoC RF coupled after Node" to "the EPoC RF coupled after HFC Node"
Note that an HFC Node is a specific type of node which is well known in the cable industry. Other uses of the word node in the standard is consistent with the definitions of CCDN, ODN, etc.

Cl **100A** *SC* **100A.2** *P* **350** *L* **17** # i-26

Hajduczenia, Marek Bright House Network

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

Table 100A-1 contains multiple acronyms that are not defined anywhere - when they are used in 1/2 locations, just expand them and not define them at all

SuggestedRemedy

Examples: SCN, CTB, CSO, SCN

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
First use of SCN is already expanded in Table 100A-1. Will add first-use expansions for first use of acronyms for CTB, CSO, as found. Note that SCN, CTB, and CSO well known in the cable RF industry.

Cl **100A** *SC* **100A.2** *P* **352** *L* **4** # i-27

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R** *+REV+ Sed*

All notes under the table are NOT in the right format.

SuggestedRemedy

Apply proper FM style - right now these are simple T,Text style text.
Also, is the intent to use informative or normative notes here? There is a difference and it seems that you're after footnotes, and not notes to table. If that is the case, use footnotes, and not notes.
The same observation applies to Table 100A-2

Response *Response Status* **W**

REJECT.
These are Table Notes and informative (see 14.4 in the Style Manual). IEEE Staff Editors approved the current format and paragraph tag.

Cl **100A** *SC* **100A.4.3** *P* **356** *L* **6** # i-28

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

I am very confused by TOPO PICS entry - what does it even mean that the baseline channel model shall be based on Figure 100A-1? PERF1 and PERF2 make some sense, in that these are requirements for channel to meet in order to support baseline EPoC operation.

SuggestedRemedy

Strike 100A.4.3 + remove associated shall requirement

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Strike "TOTO" requirement and 100A.4.4 header.

At pg 349 line 4 strike the statement "Devices designed to the EPoC PHY standard shall meet or exceed normative performance when operated in any network which meets or exceeds the parameters given in Table 100A-1 and Table 100A-2 regardless of the network topology."

Add at pg 350 line 3 as the 1st sentence of the para:
"Devices designed to the EPoC PHY standard shall meet or exceed normative performance when operated in any network which meets or exceeds the parameters given in Table 100A-1 regardless of the network topology."

Add at pg 352 line 30 as 1st senttence of the para:
"Devices designed to the EPoC PHY standard shall meet or exceed normative performance when operated in any network which meets or exceeds the parameters given in Table 100A-2 regardless of the network topology."

Update PICS PERF1 & PERF2

Cl **100** *SC* **100.3.2.1** *P* **87** *L* **10** # i-29

Hajduczenia, Marek Bright House Network

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

"This establishes nominal data rate for CLT PMA_UNITDATA.request() service interface." - unclear what "This" means in this sentence. Is this reference to equation 100-1 or DS-DataRate? Please clarify
Also, "CLT PMA_UNITDATA.request()" should be "CLT PMA_UNITDATA.request", since we do not list all primitive parameters. Same on page 88, line 1

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change "This" to "Equation 100-1" cross ref. Do the other two changes.

Cl **100** *SC* **100.3.2.2** *P* **87** *L* **30** # i-30

Hajduczenia, Marek Bright House Network

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

Odd unit: "(upstream) (us))

SuggestedRemedy

Change to "(us)"
It is not clear what the implication of "(upstream)" is here

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Remove "(upstream)".

Cl **100** *SC* **100.3.2.3** *P* **88** *L* **19** # i-31

Hajduczenia, Marek Bright House Network

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

There is no reason to keep DS_ChCnt variable in bit-format - it should be specified as unsigned integer and how it is mapped into register(s) is quite straightforward, considering the value range: 1- 5
Similar comment on DS_PowerCh(n) in 100.3.4.2.1

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change "3-bit integer" to "3-bit unsigned integer"

Cl **100** *SC* **100.3.3** *P* **88** *L* **37** # i-32

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

This kind of information should be included in the subclause called "Labelling"

SuggestedRemedy

Move this to 100.5.4 and convert into a non-requirement. Unless you provide specific normative way of labelling wavelength ranges, it is not testable as defined right now.
Remove associated PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
1) Move 100.3.3, 100.3.3.1, and 100.3.3.2 under 100.5.4, as 100.5.4.1, 100.5.4.1.1, and 100.5.4.1.2 respectively. Move DS_FreqCh(n) and US_FreqCh1 definitions from 100.3.3.3 to 100.3.2.3. Delete 100.3.3.3 subclause header. Update PICS.
2) The TF and IEEE Staff Editor agree that labeling in normative and thus a "shall" is appropriate? A black box without labeling on supported frequency ranges is also not useful to the operator.

Update PICS as needed.

Cl **100** *SC* **100.3.4.1** *P* **89** *L* **29** # i-33

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

I do not see any value in Equation 100-3 - it is a simple division, which can be described in simple words

SuggestedRemedy

Strike Eq (100-3)
Change "The number of equivalent 6 MHz channels, Neq, is constant and is derived from a single OFDM channel size of 192 MHz" to "The number of equivalent 6 MHz channels, Neq, is constant and calculated for a single OFDM channel size of 192 MHz as follows: 192/6 = 32."

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.3.4.1** *P* **89** *L* **43** # i-34

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Text does not match the equation 100-4. "Occupied spectrum (Occupiedspectrum) ... is the sum of ... "

SuggestedRemedy

Change to "Occupied spectrum (Occupiedspectrum) as shown in Equation (100-4) is the product of ... "

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.3.4.1** *P* **90** *L* **13** # i-35

Hajduczenia, Marek Bright House Network

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

"The modulated spectrum at the MDI ("RF port") is" - MDI is defined already before

SuggestedRemedy

Strike "("RF port")" here and going forward - there is no need to repeat the statement that MDI is the said RF port

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Page 89, Line 31, change "MDI ("RF port")" to "MDI (TP1, see 100.4)"
Page 90, Line 13 and 21 remove "("RF port")"
Page 93, Line 11, 31, and 36: change "RF port" to "MDI"
Page 94, Line 11 and 12 change "RF port" to "MDI"
Page 95, Line 52, change "RF port" to "MDI"

Cl **1** *SC* **100.3.4.2** *P* **92** *L* **16** # i-36

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+REV+*

"[ISO/IEC-61169-24] or [SCTE 02]" are not in the list of references right now ...

SuggestedRemedy

Add these as normative references to Clause 1

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Changed to Clause 1. The references on Page 92, line 16 need to be added to Clause 1.

Cl **100** *SC* **100.3.4.2** *P* **92** *L* **21** # i-37

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

Seems like definition of MER should be moved to a normative part of the text, where other definitions are also detailed: 100.3.4.1 OFDM channel power definitions

SuggestedRemedy

Per comment - it is used in at least 286 locations in the draft today, with no other definition.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
MER is being added as a defintion in Clause 1. See Page 28, line 47, CL 1.4.277a, of draft D3.0. In Table Footnote "c" change "MER (modulation error ratio)" to "Modulation error ratio (MER)"

Cl **100** *SC* **100.3.4.4** *P* **93** *L* **14** # i-38

Hajduczenia, Marek Bright House Network

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

minimum function is typically surrounded by () and not by []

SuggestedRemedy

Change "minimum[..]" to "minimum(...)"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.4.4** *P* **93** *L* **14** # i-39

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **R** *+REV+*

Equations splicing two curves are typically written with a curly bracket format: see P802.3bp D3.1, Eq 97-17 as an example. Then whole "if" conditioning becomes unnecessary

SuggestedRemedy

Per comment

Response *Response Status* **C**

REJECT.
As is, the IEEE Staff Editor feels that current equation is more clear. The TF also prefers the equation as is.

Cl **100** *SC* **100.3.4.4** *P* **93** *L* **34** # i-40

Hajduczenia, Marek Bright House Network

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

"NOTE-- With N* = bottom term in Equation (100-6)" - this is unnecessary, you already provide condition, i.e., Neqport ' >= Neqport

SuggestedRemedy

Strike "NOTE-- With N* = bottom term in Equation (100-6)"
Strike "NOTE-- With N* = top term in Equation (100-6)"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.4.4** *P* **94** *L* **1** # i-41

Hajduczenia, Marek Bright House Network

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

Notes separated from table

SuggestedRemedy

Please make sure that footnotes are not separated from the table

Response *Response Status* **C**

REJECT.
Staff editors say that standards are professionally edited by IEEE editors prior to publication.

Cl **00** *SC* **100.3.4.4** *P* **94** *L* **7** # i-42

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

Notation for ceiling not consistent with 100.1.1, where specific symbols are introduced

SuggestedRemedy

Please align the use of "ceiling" function in footnote d) with symbols defined in 100.1.1
The same applies to floor function.
Multiple locations in the draft

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Move footnote d to the closing ceiling bracket on line 31 and copy footnote d to line 36.
Change text of footnote d from:
"All equations are Ceiling(Power, 0.5) dBc. Use "Ceiling(2□Power) / 2" to get 0.5 steps from ceiling functions that
return only integer values. For example Ceiling(–63.9, 0.5) = –63.5 dBc."
to
"Ceiling function rounds to the nearest 0.5."

In Figure 101-6 SD change the two instaces of "floor(..)" into floor bracket symbols.

Cl **100** *SC* **100.3.4.4** *P* **94** *L* **12** # i-43

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+EX+*

"The CLT shall comply with all requirements operating with all Neqport channels on the RF port and with all
requirements for the device operating with Neqport' active channels on the RF port for all values of Neqport'
less than Neqport." - unclear what these requirements are, so this requirement is not testable as specified right now

SuggestedRemedy

Please add clear reference where the said requirements are listed

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change the sentence to read as follows, and place at the end of Section 100.3.4.1, where the terms are first defined within Section 100.3.4:
"The CLT shall comply with all CLT transmitter requirements (see 100.3.4) operating with all Neqport channels on the RF port and operating with Neqport' active channels on the RF port for all values of Neqport' less than Neqport."

Update PICS as needed.

Cl **100** *SC* **100.3.4.5** *P* **94** *L* **25** # i-44

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

"The CLT modulator shall satisfy ... " - it is hardly a requirement for the modulator itself that we write. It is the CLT PMD that we're writing requirements against.

SuggestedRemedy

Change all requirements towards the "CLT modulator" to "10GBASE-XR-D PMD", which is what we need. This is as specific as we need to get here IMO
Multiple locations are affected.

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.3.4.5** *P* **95** *L* **10** # i-45

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+*

No need to break out Neqi definition into a separate line and merge with text from line 12

SuggestedRemedy

Change text 8-10: "each contiguous sub-block is denoted as Neqi, for i = 1 to K, where K is the number of contiguous blocks. Therefore,"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.4.5** *P* **96** *L* **20** # i-46

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+ Sed*

Text in Requirement column for some of rows is very, very small. Suggest to either break the text down into multiple lines per entry, or alternatively create external equation, and just reference in the table. The way it is right now it is only readable when zoomed in to 400%

SuggestedRemedy

Per comment - this applies to items 1, 2, 6. Other items could be also more readable as external equations

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Discussed with IEEE Editors. Will reduce size of column "Band" and increase font size of text in third column lines 24 to 27, and 28 to 30, and 31, to 33 to size 9.

Cl **100** *SC* **100.3.4.6** *P* **97** *L* **25** # i-47

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

"The CLT shall provide for ... " - CLT as a system? This is the PMD clause

SuggestedRemedy

Consider rewriting it to a CLT PMD requirement, e.g., "The 10GPASS-XR-D PMD shall support ..."
Update PICS. There are multiple entries in Clause 100 where similar generic requirement is stated
There are also similar generic statements for a CNU, without indicating which layer is responsible for the function

Response *Response Status* **W**

REJECT.
The construct of "CLT shall" is consistent with usage in IEEE STD 802.3 2015 clauses 64 . 77 that use "OLT shall"

The commenter is invited to submit a maintence request if this remains a blocking issue.

Cl **100** *SC* **100.3.5.1** *P* **97** *L* **37** # i-48

Hajduczenia, Marek Bright House Network

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

RB Superframe or RB superframe?

SuggestedRemedy

Pick one, use consistently

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
It is "RB Superframe" everywhere except in the title for Figure 100-2. Consider capitalizing it there.

Cl **100** *SC* **100.3.5.2** *P* **98** *L* **38** # i-49

Hajduczenia, Marek Bright House Network

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

Is the ending dot in Eq 100-9 associated with any specific meaning?

SuggestedRemedy

Remove the dot in Eq 100-9

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.2** *P* **98** *L* **40** # i-50
Hajduczenia, Marek Bright House Network

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

Units in the wrong location: "53.2 dBmV+ (PMax - 65)"

SuggestedRemedy

Change to "53.2 + (PMax - 65) dBmV"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.3** *P* **98** *L* **55** # i-51
Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+EX+*

Unnecessary equation

SuggestedRemedy

Change "power P1.6t, as follows:
P1.6r = reported power level (dBmV) of CNU for the channel."
to
power P1.6t, i.e., the reported power level (dBmV) of CNU for the channel."

Response *Response Status* **C**

ACCEPT.
REVISED
The opening sentence of Section 100.3.5.3, Page 98 line 52, change "The CNU determines its target transmit normalized channel power P_{1.6t}, as follows:" to "The CNU determines individual subcarrier transmit power and maintains reported power level P_{1.6r} in dBmV."
Remove "P1.6r = reported power level (dBmV) of CNU for the channel."

Cl **100** *SC* **100.3.5.4.1** *P* **100** *L* **6** # i-52
Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+EX+*

Under-grant Hold Subcarriers - very long parameter name :) Please consider changing it into something shorter, e.g., SubCount (which is consistent with the definition in the brackets)

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Remove "Hold" from this variable name in the four places from Line 6 to 13 on Page 100.

Cl **100** *SC* **100.3.5.4.1** *P* **100** *L* **16** # i-53
Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **R** *+EX+*

Another unnecessary equation, which is not referenced

SuggestedRemedy

Change "plus an amount X dB where:
X dB = 17 dBmV - Pt"
to
"plus 17 - Pt dBmV"

Response *Response Status* **C**

REJECT.
Task Force feels this approach is more clear overall, compared to alternatives.

Cl **100** *SC* **100.3.5.4.2** *P* **102** *L* **10** # i-54
Hajduczenia, Marek Bright House Network

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

In Eq 100-14, the Round function for some reason is written in non-italics. Is this intentional?

SuggestedRemedy

Per comment

Response *Response Status* **C**

REJECT.
As per style guide "16.3 Presentation of equations", functions are Roman.

Cl **100** *SC* **100.3.5.4.2** *P* **102** *L* **17** # i-55
Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+EX+*

It is odd to see units of MHz stuck in the middle of the equation, especially when it is not clear what the end unit should be in this case

SuggestedRemedy

Consider moving MHz out of the equation and putting "(MHz)" outside of equation, to indicate what units are used. There are several equations in Clause 100 with the same problems.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Page 102, Line 17: Remove " MHz" from Eq 100-16
Page 104, Line 22: Remove " MHz" from Eq
Page 104, Line 29: Remove " MHz" from Eq

Cl **100** *SC* **100.3.5.4.2** *P* **103** *L* **1** # i-56

Hajduczenia, Marek Bright House Network

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

Odd dot in the top left hand corner

SuggestedRemedy

Please remove. There are multiple pages in the draft where such standalone dots are visible.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
1) Reattach the period to the preceding sentence on Page 102.
2) Please state the other pages.

Cl **100** *SC* **100.3.5.4.2** *P* **103** *L* **6** # i-57

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+EX+*

In Table 100-8, some numbers and text is added in [], which is neither explained nor justified

SuggestedRemedy

Either explain what this designation means, or removed altogether.
The same applies to Table 100-9

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Page 103 Line 28,
Add a single Table Note (informative style) to Table 100-8 with the text "NOTE 1-- Each row of bracketed values represent a set of calculated examples. The value in the first column is an example value for 100% Grant Spectrum (MHz). The remaining columns are the result of the calculations for that column."

Page 105, Line 27, do the same for Table 100-9.

On the 4th row of Table 100-8 adjust spacing so that the rows of bracketted numbers are aligned.

Cl **100** *SC* **100.3.5.4.3** *P* **103** *L* **46** # i-58

Hajduczenia, Marek Bright House Network

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

This is not intended to be lecture notes: "Firstly, it should be noted ..."

SuggestedRemedy

Change to "Note that ..." if such introduced is needed at all. Later in the same para, remove "Secondly," which is also not necessary

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.4.3** *P* **103** *L* **48** # i-59

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

"provides specification "dBc" only" - what does it mean that Table provides such specification? The term "dBc" is not explained, and it is not cleat what "specification dBc really is"

SuggestedRemedy

Please clarify - no clue what it is supposed to be

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Add footnote to Table 100-7 "dBc" at line 18 & line 19 to read "The signal reference power, 0 dBc, is the total transmit power defined in 100.3.5.4.1."

In Table 100-8 add the a footnote with same text as above to "dBc" at line 9 (2x).

In Table 100-9 add the a footnote with same text as above to "dBc" at line 9 (2x).

Cl **100** *SC* **100.3.5.4.3** *P* **104** *L* **10** # i-60

Hajduczenia, Marek Bright House Network

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

Rather odd equation with "The" in the middle: "Modulated Subcarriers - The Under-grant Hold Bandwidth"

SuggestedRemedy

Change "for a grant equal to:
Modulated Subcarriers - The Under-grant Hold Bandwidth."
to
"for a grant equal to Modulated Subcarriers - Under-grant Hold Bandwidth."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See i-340. Copy of Reponse:
1)Change Page 104, Line 1, "with the number of Modulated Subcarriers" to "with the Grant Spectrum".
2)Change, page 104, line 3, in the denominator of the equation, "Modulated Subcarriers" should be replaced with "Grant Spectrum", with the latter in italics as on page 102.
3)On page 104, line 10, the italicized words "Modulated Subcarriers" in the equation should be replaced with the italicized words "Grant Spectrum". Remove the "The"
4)On page 104, line 18, in the equation, the italicized words "Modulated Subcarriers" should be replaced with the italicized words "Grant Spectrum".
5)Page 100, line 1, "simultaneous" is misspelled.
6)Page 103, line 39, first sentence of Section 100.3.5.4.3, the use of "Table 100-8" should be "Table 100-9".
7)Page 103, line 48, second word of third sentence of paragraph, the use of "Table 100-8" should be "Table 100-9". (The use of "Table 100-8" later in the sentence, on line 49, is CORRECT and should not be changed.
8)Page 104, line 7, the use of "Table 100-8" should be "Table 100-9".
9)Page 104, line 8, the use of "Table 100-7" should be "Table 100-8".
10)Page 104, lines 12 through 16 are CORRECT, FYI.
11)Page 104, line 19, the use of "Table 100-7" should be "Table 100-8".
12)Page 104, line 21, the use of "Table 100-8" should be "Table 100-9".
13)Page 104, line 22, the use of "Table 100-7" should be "Table 100-8".
(Page 104, line 26, the use of "Table 100-9" is CORRECT, FYI.)

Cl **100** *SC* **100.3.5.4.3** *P* **104** *L* **31** # i-61

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R**

Round function has been used before, but explained only here.

SuggestedRemedy

Suggest to move the definition to 100.1.1 (terminology and conventions) if it is used pervasively (so it seems now) in this clause

Response *Response Status* **W**

REJECT.
The Round() function is used only twice and explained imediately after each use.

Cl **100** *SC* **100.3.5.4.4** *P* **105** *L* **37** # i-62

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Requirement broken into two sentences: "The CNU's voltage step shall be dissipated no faster than 4 us of constant slewing. This requirement applies
when the CNU is transmitting at +55 dBmV or more."

SuggestedRemedy

Change to "The CNU's voltage step shall be dissipated no faster than 4 us of constant slewing when the CNU is transmitting at +55 dBmV or more."
Update PICS

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.3.5.4.4** *P* **105** *L* **40** # i-63

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+EX+*

Requirement broken into two sentences: "At backed-off transmit levels, the CNU's maximum change in voltage shall decrease by a factor of 2 for each
6 dB decrease of power level, from +55 dBmV down to a maximum change of 3.5 mV at 31 dBmV and
below. The transient response requirement does not apply to CNU power-on and power-off transients."

SuggestedRemedy

Change to "At backed-off transmit levels, the CNU's maximum change in voltage shall decrease by a factor of 2 for each 6 dB decrease of power level, from +55 dBmV down to a maximum change of 3.5 mV at 31 dBmV and below, excluding the CNU power-on and power-off transients."

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Line 42, change "The transient response requirement does not apply to CNU power-on and power-off transients" at pg 105 line 42." to "The amplifier turn on and turn off transients of this subclause (100.3.5.4.4) are not applicable when the entire CNU is being powered on or off. "

See Response to comment i-342 copied below:
Replace the sentence at line 40 beginning with "At backed-off transmit level ." with "At transmit levels below +55 dBmV, the CNU's maximum change in voltage shall decrease by a factor of 2 for each 6 dB decrease of power level, from +55 dBmV down to a maximum change of 3.5 mV at 31 dBmV and below."

Cl **100** *SC* **100.3.5.5** *P* **105** *L* **52** # i-64

Hajduczenia, Marek Bright House Network

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

Inter-Carrier Interference (ICI) - used only once, no need to define

SuggestedRemedy

Remove "(ICI)"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.5** *P* **105** *L* **54** # i-65

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Requirements can be hardly measured ... "MER requirements are measured with a calibrated test instrument ... "

SuggestedRemedy

Change to read: "Compliance with MER requirements is verified with the use of a calibrated test instrument ... "
It would be also very valuable to include any reference to a normative MER test procedure, or where the said device is defined / described in more detail - SCTE?

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Changes as per remedy. With respect to normative MER test procedures in the industry the draft is contribution driven. If such an industry reference is provided it can be included in the draft.

Cl **100** *SC* **100.3.5.5.1** *P* **106** *L* **27** # i-66

Hajduczenia, Marek Bright House Network

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

Seems like the top of Eq 100-19 is cut off

SuggestedRemedy

Please move the top edge of equation up, and show the missing elements of (I assume) round brackets

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.5.1** *P* **106** *L* **41** # i-67

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

The summation symbol in Eq 100-20 used "j" index, which is NOT used then in RBMER

SuggestedRemedy

Please fix equation and show where "j" index is used

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Add j in the parenthesis to RBMER, should be RB_{MER}(j) in the summation

Cl **100** *SC* **100.3.5.5.2** *P* **107** *L* **10** # i-68

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+EX+*

"The following flat channel measurements with no tilt are made ..." - but there are NO following measurements.

SuggestedRemedy

What is the purpose of this statement? Is this a reference to Table 100-10? Either remove the word "following" (which is confusing right now in the context) or provide the said "following flat channel measurements"

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change first sentence on line 10 from "The following flat channel measurements with no tilt (Table 100-10) are made after the pre-equalizer coefficients have been set to their optimum values."
to "The measurements indicated in Table 100-10 are made with flat channel (as nearly flat as practical in a lab test environment), after the pre-equalization coefficients have been set to their optimum values."

Update the value in the row for 5% grant, from 44 to 50

Cl **100** *SC* **100.3.5.6** *P* **107** *L* **29** # i-69

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+*

"characteristics delineated in Table 100-11" - this is a new word :)

SuggestedRemedy

Change to "characteristics defined in Table 100-11"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See http://www.merriam-webster.com/dictionary/delineate

Cl **100** *SC* **100.3.5.6** *P* **107** *L* **35** # i-70

Hajduczenia, Marek Bright House Network

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

"7.4 to at least 204" - to avoid interpretation issues, please indicate if 204 is included or not

SuggestedRemedy

Change to "7.4 to >=204"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.6** *P* **107** *L* **47** # i-71

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Double requirements - must be really important: "CNU shall be capable of transmitting a total average output power."

SuggestedRemedy

Either move it out of the normative (required) table, or convert into a normative footnote to table

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change "Level CNU shall be capable of transmitting a total average output power."
To: "Total average transmit output power"

Update PICS as needed.

Cl **100** *SC* **100.3.5.7** *P* **108** *L* **18** # i-72

Hajduczenia, Marek Bright House Network

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

Seems like two sentences were joined together? "In EPoC, the upstream CNU PMD RF power amplifier (PA) may be turned off between bursts as shown in
Figure 100-3 PMD_SIGNAL.request(ON) is asserted when the first bit of the burst is conveyed from the
PCS to the PMA via PMA_UNITDATA.request() (see 101.4.2.1)."

SuggestedRemedy

Change to: "In EPoC, the upstream CNU PMD RF power amplifier (PA) may be turned off between bursts as shown in Figure 100-3. PMD_SIGNAL.request(ON) is asserted when the first bit of the burst is conveyed from the PCS to the PMA via PMA_UNITDATA.request() (see 101.4.2.1)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See i-345.
Copy of Suggested Remedy:
"per comment."

Cl **100** *SC* **100.3.5.7** *P* **108** *L* **21** # i-73

Hajduczenia, Marek Bright House Network

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

TPMA is mentioned, but not really defined. TPMA = The delay time through the EPoC PMA???

SuggestedRemedy

Please define the acronym, it is used 6 times in the document altogether

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
It is defined as "the delay time through the EPoC PMA" on first use. Change the six occurences of "TPMA" to "T_{PMA}".

Cl **100** *SC* **100.3.6.1** *P* **109** *L* **28** # i-74

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

"The CLT should be configured according to Table 100-12" - and what if it is not? Seems like an important requirement to be mandatory, unless power normalization does not really matter.
Later on the very same table is referenced in a normative requirement in line 35

SuggestedRemedy

Consider making it a normative requirement (if received power normalization is really needed - seems like it for sure) or changing into informative text, if there is no need for it.
Optional requirements are odd

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change "should" to "shall".
Update PICS as needed.

Cl **100** *SC* **100.3.6.1** *P* **109** *L* **30** # i-75

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

A variable intermixed with text?

SuggestedRemedy

Please move into a separate subclause, like done in other locations

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Create "100.3.6.1.1 PHY Link Managed Variables" and move it into there.

Cl **100** *SC* **100.3.6.1** *P* **110** *L* **1** # i-76

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R** *+REV+ Sed*

Table title is incomplete: "Upstream OFDMA channel demodulator input power characteristics (con-"

SuggestedRemedy

Make sure it is complete, even when broken across line

Response *Response Status* **W**

REJECT.
This appears to be a Framemaker table continuation issue with the automatically appended "(continued)" text.
Staff editors say that standards are professionally edited by IEEE editors prior to publication.

Cl **100** *SC* **100.3.6.1** *P* **110** *L* **14** # i-77

Hajduczenia, Marek Bright House Network

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

It would seem that footnote a) applies to both Minimum Set Point and Maximum Set Point - they are both defined referencing the same point (IMO)

SuggestedRemedy

Replicate footnote a) anchor for Minimum Set Point and Maximum Set Point

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.6.2** *P* **110** *L* **20** # i-78

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

There is a very long list of conditions under which CLT receiver is expected to obtain "frame loss ratio of less than or equal to 10-6". Are these conditions expected to be inclusive (all have to be met to allow Rx to achieve target FER) or not (only some are expected to be met to achieve FER)?

SuggestedRemedy

If the first option is correct (that is my inclination), change the statement to read: "The CLT shall achieve a received frame loss ratio of less than or equal to 10-6 when all of the following input load and channel conditions are met:

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.3.6.2** *P* **110** *L* **37** # i-79

Hajduczenia, Marek Bright House Network

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

"CLT is allowed to construct Grants according to its own scheduler implementation." - given that scheduler is NOT defined in Clause 103, it is an unnecessary statement, which brings questions on where such a scheduler be specified.

SuggestedRemedy

Strike

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
As per suggested remedy. Note: This was DOCSIS'ism carried over. Agree that the DBA is outside the spec.

Cl **100** *SC* **100.3.6.3** *P* **111** *L* **23** # i-80

Hajduczenia, Marek Bright House Network

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

"This item provides measurements" - rather, "subclause"

SuggestedRemedy

Change to "This subclause provides measurements"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.6.3** *P* **111** *L* **30** # i-81

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **A** *+EX+*

Meaningless optional requirement: "A sufficient number of upstream probe symbols should be used for a reliable estimate of RxMER." - how would it be expected to be tested?

SuggestedRemedy

Change to "The OLT uses a sufficient number of upstream probe symbols for a reliable estimate of RxMER."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Update PICS if required.

Cl **100** *SC* **100.3.6.3** *P* **111** *L* **30** # i-82

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **A** *+EX+*

Since M is not defined, the statement is meaningless: "An ensemble of M frequency-averaged
RxMER measurements (M large enough for reliable statistics, i.e. such that the result lies within a desired
confidence interval) would be sufficient for a given level of confidence in the estimate."

SuggestedRemedy

Strike it

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.6.3.1** *P* **112** *L* **5** # i-83

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Incomplete statement: "When TRUE this variable indicates that the values RxMER_SC(n) for the CNU indicated by RxMER_CNU_ID or the OFDM channel indicated by RxMER_ChID." - what happens / is wrong with the values "indicated by RxMER_CNU_ID or the OFDM channel indicated by RxMER_ChID" ???

SuggestedRemedy

Please finish the statement

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Insert "are valid" at end of first sentence.

Cl **100** *SC* **100.3.7.1** *P* **112** *L* **13** # i-84

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Way too many requirements for the same thing: "The CNU shall meet .. ", " The CNU receiver shall meet...", and "The OFDM signals and CNU interfaces shall have ..."
First, we cannot make requirements towards "OFMD signals", given that it is what the channel model is supposed to define, and these have been covered before, I believe.
Strike the statement: "The OFDM signals and CNU interfaces shall have the characteristics and limitations defined in Table 100-14."
Second, requirements towards CNU and CNU receiver and overlapping - without clear delineation, it is a single shall test point anyway, given that it points to a single table.
Change "The CNU shall meet all performance specification when receiving a signal conformant to the parameters shown in Table 100-14. The CNU receiver shall meet electrical parameters per Table 100-14." to "The 10GPASS-XR-U PMD receiver shall meet electrical performance requirements per Table 100-14."
Update respective PICS.
Remove any requirements for OFDM *signal* itself, and put these into the channel model. that is where they should be located, not in the receiver requirements

SuggestedRemedy

Per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Replace the para with
"The CNU shall meet electrical parameters and all performance specifications when receiving a signal conformant to the parameters shown in Table 100-14."

Update PICS as needed.

Cl **100** *SC* **100.3.7.1** *P* **112** *L* **32** # i-85

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+EX+*

"Maximum average power per MHz input to the CNU from 54 MHz to 1.794 GHz" - equation is defined in table, which is hard to read and interpret

SuggestedRemedy

Move the equation outside the table and reference it inside of the table per "see Equation 100-XXX"

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
Change the 3rd & 4th rows in Table 100-14 as shown in 802.3bn_3d0_comment85.pdf

Cl **100** *SC* **100.3.7.1** *P* **113** *L* **1** # i-86

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **R** *+REV+*

More footnotes separated from tables

SuggestedRemedy

Please make sure they go together with the table for improved readability

Response *Response Status* **C**

REJECT.
Staff editors say that standards are professionally edited by IEEE editors prior to publication.

Cl **100** *SC* **100.3.7.3** *P* **114** *L* **8** # i-87

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Conflicting definitions
Page 114, line 8: "RxMER is defined as the ratio of the average power of the ideal QAM constellation to the average error-vector power"
Page 111, line 23: "RxMER is defined as the ratio of the average power of the ideal BPSK constellation to the average error-vector power"
Which is it then?

SuggestedRemedy

Rationalize - either it is one and the same (then which one is correct??) or expand the acronym to reflect that one is for QAM and another for BPSK constellation

Response *Response Status* **W**

REJECT.
One (pg 111) is for the CLT: "For the purposes of RxMER measurement at the CLT, ."
The other (pg 114) is for the CNU: "For the purposes of RxMER measurement at the CNU,.."
And yes these are different.

Cl **100** *SC* **100.3.7.3** *P* **114** *L* **38** # i-88

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Repeated (though rephrased) requirement:
Page 114, line 3: "The CNU receiver shall provide measurements of the downstream receive modulation error ratio (RxMER) for each subcarrier in all enabled OFDM channels."
Page 114, line 38: "The CNU shall be capable of providing measurements of RxMER for all active subcarrier locations for each OFDM downstream channel, using pilots and PHY Link preamble symbols."
I suggest these be combined into a single statement, since they are almost identical anyway

SuggestedRemedy

Strike text on Page 114, line 38
Change text on Page 114, line 38 to read "The CNU provide measurements of downstream receive modulation error ratio (RxMER) for all active subcarrier locations for each OFDM downstream channel, using pilots and PHY Link preamble symbols."
I suggest these be combined into a single statement, since they are almost identical anyway
Update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Strike last sentence of the para beginning lon line 38.
Replace the sentence at line 3 with "The CNU provides measurements of downstream receive modulation error ratio (RxMER) for all active subcarrier locations for each OFDM downstream channel, using pilots and PHY Link preamble symbols."

Cl **100** *SC* **100.3.7.3** *P* **115** *L* **16** # i-89

Hajduczenia, Marek Bright House Network

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

The text in Figure 100-4, box: 10xlog10 does not need ot be broken into two lines

SuggestedRemedy

Make sure text is not broken into two lines - there is enough space to make box wider and make sure it is not broken across lines
Similarly, box with "Mag Squared" - should be changed to "Magnitude Squared" ???

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Adjust "10xlog10" as per remedy.
Change "Mag" to "Magnitude". Adjust box sizes as needed.

Cl **100** *SC* **100.3.7.3** *P* **115** *L* **1** # i-90

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Figure 100-4 seems to be artificially broken across the Error Vector [e]

SuggestedRemedy

Suggest that the line from top of the figure (Error vector e) be continued to input of Error vector e in the lower part of the figure, showing continuity in terms of electrical signal
Now the continuity is only logical (same value?)

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.3.8.1** *P* **115** *L* **38** # i-91

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

What does it really mean: "The CLT ensures that the encompassed spectrum of each 192 MHz downstream OFDM channel does not exceed 190 MHz and does not exceed 3800 active subcarriers (see Table 100-3)." - the only thing that the OLT can do is use up to 192 MHz of spectrum and up to 3800 active subcarriers, but apart from that, I am not clear what else the OLT can ensure. This statement and the whole subclause 100.3.8 seems to be a restatement of existing requirements scattered through the rest of Clause 100.

SuggestedRemedy

It would make sense to include some of these requirements in PMD specification tables instead, and make them normative. The current informative text is kind of in the middle - it provides some information, but it is not normative anyway.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See Suggested Remedy for accepted comment i-348 copied below

Remove the phrase at line 32.
Remove the phrase at line 38 and change "does not" to "cannot" so the sentence reads: "The encompassed spectrum of each 192 MHz downstream OFDM channel cannot exceed 190 MHz and does not exceed 3800 active subcarriers (see Table 100-3)."
Remove the phrase at line 42.
Remove the phrase at pg 116 line 24 and change "does not" to "cannot" 2x so the sentence reads: "the encompassed spectrum of the upstream OFDMA channel cannot exceed 190 MHz and cannot exceed 3800 active subcarriers (see Table 100-11)."

Cl **100** *SC* **100.3.8.1** *P* **115** *L* **46** # i-92

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **A** *+EX+*

Confusing text of the note: "within the entirety of the downstream spectrum on a coax cable distribution network, EPoC will be operating
concurrently with other cable operator services: e.g. video channel, etc. Collectively, these are referred to as non-OFDM
channels in the context of these downstream channel bandwidth rules.

SuggestedRemedy

Simplify to read: "The term "non-OFDM channels" describes other applications using downstream spectrum concurrently with EPoC, per channel model in Annex 100A." - there si no need to create examples, when theya re already included in Annex 100A describign teh channel model

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Strike the note
And see resolution to comment i-93

Cl **100** *SC* **100.3.8.2** *P* **115** *L* **51** # i-93

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **A** *+EX+*

"The CLT and CNU are not expected to meet performance and fidelity requirements when the system configuration
does not comply with the downstream exclusion band rules listed below. These rules apply to each
OFDM channel and also to the composite downstream inclusive of OFDM and non-OFDM channels." - really? We usually state conditions under which PMD pair can operate, and anythign outside of these boundries is no-mans' land. No need to state this explicitly

SuggestedRemedy

Change to read: "The downstream exclusion band rules listed below apply to each OFDM channel:"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change Paragraph located Line 51 to 54 to:
"The downstream exclusion band rules listed below apply to each OFDM channel and the composite downstream channel inclusive of OFDM and other signals using downstream spectrum concurrently with EPoC, e.g., video channels. The CLT and CNU are not expected to meet performance and fidelity requirements when the system configuration does not comply with the downstream exclusion band rules listed below."

Cl **1** *SC* **100.3.8.2** *P* **116** *L* **5** # i-94

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R** *+REV+*

CFR 76 is not defined anywhere

SuggestedRemedy

Add to list of references, if needed

Response *Response Status* **W**

REJECT.
See editor instructions to change in 1.3 Normative references.

Cl **100** *SC* **100.3.8.2** *P* **116** *L* **5** # i-95

Hajduczenia, Marek Bright House Network

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

"The ONLY exception" - why is ONLY capitalized?

SuggestedRemedy

We do not use capitalization as emphasis in standard. If something is very important, it becomes a requirement of a sort. Drop case down

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.8.2** *P* **115** *L* **50** # i-96

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Havign read the whole of 100.3.8, I am still confused as to what 100.3.8.2 and 100.3.8.4 really define. Are these intended to cover rules for where exclusion bands can be placed - if so, it is not clear right now, especially in 100.3.8.4, where just three bullets are provided within any context

SuggestedRemedy

If these are expected to be requirements for channel for EPoC, these ought to be converted into requirements and moved into Annex 100A which was created to account for channel model. If not, I am not sure what the value 100.3.8.2 and 100.3.8.4 really have, given that they are not bound into the PMD requirements in any way right now

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
At line 33/34 strike "Definitions of parameters
and measurement methods."

The para at 100.3.8 provides rules for usage of exclusions as explained in the first sentence. Further appendix 100A is not relevent as this text does not talk to channel model nor topology.

In 100.3.8.4 pg 116 line 38 add as first sentence in subclause "The CLT and CNU are not expected to meet performance and fidelity requirements when the system configuration does not comply with the downstream exclusion band rules listed below."

Cl **100** *SC* **100.4** *P* **116** *L* **39** # i-97

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R**

Forward reference to Figures. It would seem that interafces are really defined in Clause 101, while they are used for description of operation of PMD in Clause 100 as well.

SuggestedRemedy

Move Figures 101-1 though 101-4 to Clause 100, into 100.4, where they are first referenced.

Response *Response Status* **W**

REJECT.
These were previously moved from Clause 100 to Clause 101 as part of prior comment resolution.

Cl **100** *SC* **100.4.1** *P* **116** *L* **45** # i-98

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+EX+*

The specified limit applies ..." - wher is this limit specified?

SuggestedRemedy

Per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See Comment i-350 with response copied below:
Change "The specified limit" to "The specified limit of 73 dB below the operationally configured aggregate power (see <ital>CLT_TxMute</ital>)".

Cl **100** *SC* **100.4.1** *P* **116** *L* **48** # i-99

Hajduczenia, Marek Bright House Network

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

Missing space in "TP1/MD1of"

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.4.1** *P* **116** *L* **28** # i-100

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Repeated requirement - Table 100-3 is already mandatory: "The output return loss at TP1/MD1of the muted device shall comply with the Output
Return Loss requirements for inactive OFDM channels given in Table 100-3."

SuggestedRemedy

Remove the requirement, make it into statement. Remove any assoiated PICS

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.4.1** *P* **116** *L* **53** # i-101

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

An odd way to define a requirement - "When this variable is set to TRUE the CLT shall set the RF output power = 73 dBc" - this should be part of Table 100-3 (similar to power output in OFF state for optical Tx in EPON), while it is not there

SuggestedRemedy

Move the requirement to Table 100-3. Change the definition of "CLT_TxMute" to read as follows: "When this variable is set to TRUE the CLT sets the RF output power = 73 dBc (see Table 100-3) below the operationally configured aggregate power of the RF modulated signal, in every 6 MHz channel from 258 MHz to 1218 MHz."
Remove any associated PICS

Response *Response Status* **W**

ACCEPT.

Cl **100** *SC* **100.4.2** *P* **117** *L* **16** # i-102

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

"A minimum warm-up time of 30 minutes occurs before measurements are made." - if the measurements are time correlated in any way, measurements should be performed in discrete intervals, e.g., every 5 minutes for a specific number, and then mean and deviation should be presented. Otherwise, it is hardly a measurement at all - you pick one point of time, at an arbitrary distance (30 minutes) from start-up time and treat that as a true value

SuggestedRemedy

Add information that RxMER is a mean value for X number of measurements, starting from 30 minutes, occuring every X minutes for Y total measurement time
The last bullet kind of goes in that direction, but M remains undefined, measurement frequency is also undefined ("are taken in succession (e.g., over a period of up to 10 minutes) at both CNR values" - does not provide for repeatabilty of measurements across vendors
Mean and deviation are not provided as normative parameters today, just the mean, which is kind of meaningless, given the variability expected in this parameter over the range of measurements

Response *Response Status* **W**

REJECT.
The TF believes requiring a warm-up time is reasonable and appropriate.

Cl **100** *SC* **100.4.2** *P* **117** *L* **27** # i-103

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Requirements out of place: "The CNU shall provide RxMER measurements with RxMER_std 0.5 dB under the above specified conditions.
Define delta_RxMER = (RxMER_mean at CNR_data_subcarrier = 35 dB) - (RxMER_mean at CNR_data_-
subcarrier = 30 dB). The CNU shall provide RxMER measurements such that 4 dB delta_RxMER 6 dB
under the above specified condition."

SuggestedRemedy

Move these requirements into 100.3.7.3, which already covers RxMER for CNU, but does not really have any requrements ...
Update PICS accordingly

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Move the text at line 27 - 32 after the last para on pg 114 and replace "under the above specified conditions" with "under the conditions specified in 100.4.2". Update PICS.

Cl **100** *SC* **100.4.3** *P* **117** *L* **45** # i-104

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

"The CLT shall provide upstream power measurements with a standard deviation of 0.33 dB or better under the following test conditions" - this should go into 100.3.6 where CLT Rx requirements are listed, and text in 100.4.3 should be made informative, as far as measurement conditoons are concerned

SuggestedRemedy

Per comment + update PICS accordingly

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change line 45 to read: "The CLT provides upstream power measurements with a standard deviation of 0.33 dB or better under the following test conditions"

At the end of 100.3.6.1 add: "The CLT shall provide upstream power measurements with a standard deviation of 0.33 dB or better under the test conditions given in 100.4.3."

Update PICS as needed.

Cl **100** *SC* **100.4.3** *P* **117** *L* **41** # i-105

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+EX+*

Seems like product requirements: "The CLT should provide an estimate of total received power in a specified OFDMA channel at the TP1 reference
input point, for a single specified upstream user. The CLT should provide configurable averaging
over a range at least including 1 to 32 probes."

SuggestedRemedy

Remove, these are product requirements, unless we have associated requirements for these specific values
Remove PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Line 35/36, to the first sentence of the paragraph beginning with "The purpose of the upstream." add to the end of the sentence: "for a single specified upstream CNU"

Line 41. Strike sentence "The CLT should provide an estimate of total received power in a specified OFDMA channel at the TP1 reference input point, for a single specified upstream user."

Line 42, Convert remaining sentence into a paragraph Note tag from "The CLT should provide configurable averaging over a range at least including 1 to 32 probes." to read: "NOTE- It is recommended that the CLT provide configurable averaging over a range at least including 1 to 32 probes."

Update PICS

Cl **100** *SC* **100.4.4** *P* **118** *L* **23** # i-106

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

This has nothing to do with measurement methods - these are CLT TX requirements

SuggestedRemedy

If these are needed, move them to 100.3.6 in appropriate location.
Update PICS as needed

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change the title of subclause 100.4. from "Definitions of parameters and measurement methods" to
"Test requirements and measurement methods"

Cl **100** *SC* **100.4.4** *P* **118** *L* **29** # i-107

Hajduczenia, Marek Bright House Network

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

Definition of CW signal is hidden in a footnote on page 99 ... odd

SuggestedRemedy

Expand CW to "Continuous Wave (CW)" in Table 100-16

Response *Response Status* **C**

REJECT.
Definition of CW is in 1.4.165. First use is expanded already in this clause in footnote on page 99.

Cl **100** *SC* **100.4.4** *P* **119** *L* **30** # i-108

Hajduczenia, Marek Bright House Network

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

It seems like specific test modes are defined in here and in line 52, and they are "hidden" in the text itself.

SuggestedRemedy

Suggest to create
- 100.4.4.1 Test Mode 1 and include page 119, lines 30-50 in this new subclause
- 100.4.4.2 Test Mode 2 and include page 119, lines 52-54, and page 120, lines 1-8 in this nes cubalsue
Update PICS accordingly

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.5.3** *P* **120** *L* **28** # i-109

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **R** *+REV+*

"It is recommended that manufacturers indicate in the literature associated with the PHY" - we do not p[rescribe where it needs to be indicated. Technical notes, summary notes, etc. are also allowed. Poems might be a tad too much

SuggestedRemedy

Change to "It is recommended that manufacturers indicate ..."
Similar change in line 30

Response *Response Status* **C**

REJECT.
The suggested remedy does not suggest a change to the existing text.

Cl **100** *SC* **100.6** *P* **120** *L* **42** # i-110

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Untestable requirement: "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)."

SuggestedRemedy

The very nature of EPoC (like EPON) implies that transmit path is disabled in between bursts.
Change the text to read: "In order to support EEE-like power saving, the 10GPASS-XR PHYs may deactivate some PHY functional blocks, e.g., RF power amplifier, between individual data bursts (in case of 10GPAS-XR-U PHY), disable some of OFDM channels (in case of 10GPAS-XR-D PHY) when traffic load is low, or use other vendor-specific mechanisms to lower the overal PHY consumption without affecting the latency and BER on the EPoC link." - this is as good as we can do here without specific hooks for EEE at the PHY layer

Response *Response Status* **W**

REJECT.
There is no support in this standard to "disable some of OFDM channels (in case of 10GPAS-XR-D PHY) when traffic load is low", "other vendor-specific mechanisms " are outside the scope of the standard.

Cl **103** *SC* **103.1** *P* **299** *L* **8** # i-111

Hajduczenia, Marek Bright House Network

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

"in which passive and usually active elements" - sounds like these "usually active" elements can be also passive at times.

SuggestedRemedy

Change to "in which both passive and active elements"

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.1** *P* **299** *L* **23** # i-112

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+ Sed*

Comment bait: "Topics dealt with in this clause include allocation of upstream transmission resources to different CNUs,
discovery and registration of CNUs into the network, and reporting of congestion to higher layers to allow
for dynamic bandwidth allocation schemes and statistical multiplexing across the CCDN.
This clause does not deal with topics including bandwidth allocation strategies, authentication of enddevices,
quality-of-service definition, provisioning, or management." - line 30 already states what is being specified in this clause, and everything else is NOT specified. Period

SuggestedRemedy

Strike text "Topics dealt with in this clause include allocation of upstream transmission resources to different CNUs,
discovery and registration of CNUs into the network, and reporting of congestion to higher layers to allow
for dynamic bandwidth allocation schemes and statistical multiplexing across the CCDN.
This clause does not deal with topics including bandwidth allocation strategies, authentication of enddevices,
quality-of-service definition, provisioning, or management."

Response *Response Status* **W**

REJECT.
For concistency reasons the Staff editors would prefer if we included this given that it already appears in Cl 64 and 77.

If this wording is objectionable, the commenter is invited to submit a maintainance request on the similar text in Cl 64 and 77

Cl **103** *SC* **103.1** *P* **300** *L* **1** # i-113

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *remein_02*

Even at high level, Figure 103-1 does not resemble Figure 100A-1, which shows amplifiers (not feeder) and contains mor details - there are taps, and splitter are only at home/

SuggestedRemedy

Either replace everything between CLT and CNUs with cloud and name it CCDN (that is the level needed for Clause 103) or reproduce Figure 100A-1 in here

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See 3bn_remein_02_1602.pdf

Cl **103** *SC* **103.1** *P* **300** *L* **26** # i-114

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

These are not PRIOR versions, just versions. EPoC MPCP cannot be executed on EPON, just like EPON MPCP cannot be executed on EPoC without changes

SuggestedRemedy

Change: "The EPoC Multipoint MAC Control shares much in common with prior versions of the Multipoint MAC Control protocol defined in Clause 64 and Clause 77." to "The EPoC Multipoint MAC Control shares operating principles with the Multipoint MAC Control protocol defined in Clause 64 and Clause 77."

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
The EPoC Multipoint MAC Control shares much in common with the Multipoint MAC Control protocol defined in Clause 64 and Clause 77.

Cl **103** *SC* **103.2.2** *P* **305** *L* **1** # i-115

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R**

There does not seem to be anything different in 103.2.2 when compared with 77.2.2, apart from CLT and CNU labels - does that require importing all figures into the new Clause?

SuggestedRemedy

In other locations 802.3, there are cases where text was marked as applicable, with some listed changes. Here, change "The purpose and high level functionality of multipoint transmission control is similar to those described in 77.2.2 for EPON." to "The purpose and high level functionality of multipoint transmission control is similar to those described in 77.2.2 for EPON, including Figure 77-6 through Figure 77-9, where the term "ONU" is replaced with "CNU" and the term "OLT" is replaced with "CLT"."
Strike Figure 103-4 through Figure 103-7

Response *Response Status* **W**

REJECT.
The TF feels that including these figures is benificial to the readability of the standard.

Cl **103** *SC* **103.2.2.4** *P* **311** *L* **29** # i-116

Hajduczenia, Marek Bright House Network

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

The issue with these equations is the use of very long and wordy names of functions and parameters: Derating_Overhead, DS_FEC_CW_Sz_FRAC, etc. The names are meaningless anyway, and could be easily replaced with simpler and shorter versions, e.g., DS_FEC_CW_Sz_FRAC with DS_FEC_Frac, Derating_Overhead with DerateO, FEC_Overhead with FecO, etc. - allowing equations to actually fit into a single line to improve readability

SuggestedRemedy

Per comment

Response *Response Status* **C**

REJECT.
The TF feels that these variable names are preferred and will be clearer to the reader.

Cl **103** *SC* **103.2.2.7** *P* **313** *L* **7** # i-117

Hajduczenia, Marek Bright House Network

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

Too many brackets: ceil((XGMII_Rate/PCS_Rate-1) * DS_FEC_CW_Sz_FRAC)) - 2 were open, three were closed

SuggestedRemedy

Change to: ceil((XGMII_Rate/PCS_Rate-1) * DS_FEC_CW_Sz_FRAC)

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.2.2.7** *P* **314** *L* **1** # i-118

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+ Sed*

Figure 103-9 is no different than Figure 77-10

SuggestedRemedy

Remove Figure 103-9 and replace all references with Figure 77-10

Response *Response Status* **W**

REJECT.
The staff editors indicate that in such cases it is preferred to include the similar figure in the new Clause. It was also pointed out that the titles do not match.

Cl **103** *SC* **103.2.2.7** *P* **315** *L* **1** # i-119
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *DR Sed*

Figure 103-10 is no different than Figure 77-11, excluding guardThresholdCLT which is guardThresholdOLT in Figure 77-11 - a change that can be described in words.

SuggestedRemedy

Remove Figure 103-10 and replace all references with Figure 77-11

Response *Response Status* **W**

REJECT.
The suggested change would create an unnecessary reference to a clause in another section of the standard and leave a hanging PICS without a reference. Including the SD here does no harm and is much more convenient for the reader.
The variable guardThresholdCLT is used in several SDs and should be kept.

Cl **103** *SC* **103.2.2.7** *P* **316** *L* **1** # i-120
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+ Sed*

Figure 103-11 is no different than Figure 77-12, excluding guardThresholdCNU which is guardThresholdONU in Figure 77-12 - a change that can be described in words.

SuggestedRemedy

Remove Figure 103-11 and replace all references with Figure 77-12

Response *Response Status* **W**

REJECT.
The staff editors indicate that in such cases it is preferred to include the similar figure in the new Clause. It was also pointed out that the titles do not match.

Cl **103** *SC* **103.2.2.7** *P* **316** *L* **24** # i-121
Hajduczenia, Marek Bright House Network

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

Name of state in PARSE OPCODE state overlaps with top border of the state

SuggestedRemedy

Please move the text a bit down, so that it does not overlap with the top edge of the state box

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
per comment which I suspect the comment is about pg 317.

Cl **103** *SC* **103.3.2.2** *P* **319** *L* **23** # i-122
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

Reference to 77.3.2.2 is sufficient - it already contains reference to 76.2.6.1.3.2

SuggestedRemedy

Change text in lines 23-24 to read: "Optional Shared LAN emulation for EPoC is the same as described in 77.3.2.2."

Response *Response Status* **W**

ACCEPT.

Cl **103** *SC* **103.3.2.3** *P* **319** *L* **23** # i-123
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

Reference to 77.3.2.3 is sufficient - it already contains reference to 76.2.6.1.3.2

SuggestedRemedy

Change text in lines 28-30 to read: "Multicast and single copy broadcast support in EPoC is the same as described in 77.3.2.3."

Response *Response Status* **W**

ACCEPT.

Cl **103** *SC* **103.3.3** *P* **320** *L* **1** # i-124
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

Figure 103-14/15/16 is no different from Figure 77-16/17/18, apart from the statement already included in the draft: "The laserOnTime and laserOffTime parameters in 77.3.3 are replaced in EPoC with
rfOnTime and rfOffTime, respectively."

SuggestedRemedy

Strike Figure 103-14/15/16

Response *Response Status* **W**

REJECT.
The suggested change would create an unnecessary reference to a clause in another section of the standard. Including the diagram here does no harm and is much more convenient for the reader.

Cl **103** *SC* **103.3.3.1** *P* **321** *L* **28** # i-125

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

This is the strangest definition yet: This variable holds the time required to terminate the RF and is included for consistency with Clause 77. - it is defined but has the value of zero. The same applies to rfOnTime

SuggestedRemedy

A cleaner approach would be remove them altogether, given that they are not used for anything. If you want to keep them, change definition of rfOffTime to "PlaceholderOff: This variable replaces laserOffTime in Clause 77." and rfOnTime to read: "PlaceholderOn: This variable replaces laserOnTime in Clause 77." - since these do not hold really any meaning, do not pretend they have some meaning.
Similar observation applies to syncTime on page 322, line 18, which is only present for "compatibility" purposes

Response *Response Status* **W**

REJECT.
The change would result in unnecessary work (rfOffTime appears 25x in the draft and rfOnTIme 26x) and would change several technical figures and requirements. The risk of introducing technical problems into the draft outweights the personal preference of the commenter.

Cl **103** *SC* **103.3.3.4** *P* **323** *L* **18** # i-126

Hajduczenia, Marek Bright House Network

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

Is there any special reason why rfOnTime and rfOffTime are in italics, when most other parameters are not?

SuggestedRemedy

Either use italics for all parameters, or do not - right now it is almost half/half for no special reason

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Italicise rfOnTime, rfOffTime on pg 339 line 42 (remove line break also). All other instances are already in italic, in SD (which use a different font) are targeted to be removed per commentes from the commenter.

Cl **103** *SC* **103.3.3.5** *P* **325** *L* **52** # i-127

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

Figure 103-17 was modified from Figure 77-19 by removing the discoveryInformation parameter. This begs a question - instead of trying to maintain "compatibility" with existing Clause 77 MPCP, wouldn't it be clearer to remove rfOnTime, rfOffTime, and sync_time parameters everywhere, and just make Clause 103 cleaner in this way?

SuggestedRemedy

Per comment

Response *Response Status* **W**

REJECT.
The change would result in unnecessary work (rfOffTime appears 25x in the draft and rfOnTIme 26x, sync_time 5x) and would change several technical figures and requirements. The risk of introducing technical problems into the draft outweights the personal preference of the commenter. Removal of sync_time parameter has never been raised or discussed with the TF before.

Cl **103** *SC* **103.3.5** *P* **330** *L* **31** # i-128

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

Figure 103-22 does not seem to be any different from Figure 77-27.

SuggestedRemedy

Remove 103-22 and replace all references to 77-27, which is functionally the same

Response *Response Status* **W**

REJECT.
The suggested change would create an unnecessary reference to a clause in another section of the standard. Including the diagram here does no harm and is much more convenient for the reader.

Cl **103** *SC* **103.3.5.1** *P* **330** *L* **46** # i-129

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

What is the unit for min_processing_time? Please clarify what 1024 really means (us, TQ, something else?)

SuggestedRemedy

In 77.3.5.1, it is defined as: VALUE: 0x00000400 (16.384 us)

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change link to 77.3.5.1
Replace 1024 with 0x00000400 (16.384 us)

Cl **103** *SC* **103.3.5.2** *P* **331** *L* **1** # i-130

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *2 IDLES*

I was looking for justification of the "two leading IDLE vectors of the payload" - there was a purpose for them in 10G-EPON, but it is not clear what they are used for in EPoC.

SuggestedRemedy

The pointer to 101.3.2.5.7 does not help

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change to "This variable represents the burst overhead and equals BurstTimeHeader() (see 101.3.2.5.7)"

Cl **103** *SC* **103.3.5.2** *P* **331** *L* **12** # i-131

Hajduczenia, Marek Bright House Network

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

Compound adjectives needs to be hyphenated: 48 bit unsigned, 32 bit unsigned, 16 bit unsigned, etc.

SuggestedRemedy

Change to "48-bit unsigned, 32-bit unsigned, 16-bit unsigned"
Scrub the rest of the draft, there are more instances

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Ref pg/line
48 bit: 331/12
32 bit: 257/3, 263/31, 264/7, 266/49, 331/13
16 bit: 331/14

Cl **103** *SC* **103.3.5.2** *P* **332** *L* **15** # i-132

Hajduczenia, Marek Bright House Network

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

"RB_total_time = RB_time_quanta * Number_of_Burst_RBs" - "*" symbol is assigned a logical AND meaning assigned. Use "x" symbol instead

SuggestedRemedy

Per comment
There are multiple instances in equations

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.3.5.6** *P* **335** *L* **36** # i-133

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+ Sed*

Figure 103-23 is the same as Figure 77-28

SuggestedRemedy

Remove 103-23 and replace all reference with Figure 77-28

Response *Response Status* **W**

REJECT.
The staff editors indicate that in such cases it is preferred to include the similar figure in the new Clause. It was also pointed out that the titles do not match.

Cl **103** *SC* **103.3.6.1** *P* **338** *L* **8** # i-134

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

Why not set rfOnTime, rfOffTime, and sync-time, together with discoveryInformation to zeros, and skip changining Clause 77 where not needed?

SuggestedRemedy

Change "In EPoC rfOnTime and rfOffTime replace laserOnTime and laserOffTime, respectively. The Sync Time and Discovery Information fields described in 77.3.6.1 are not used in EPoC and shall be set to zero on transmit and ignored on reception." to "In EPoC laserOnTime, laserOffTime, Sync Time, and Discovery Information fields described in 77.3.6.1 are not used and shall be set to zero on transmit and ignored on reception."
Update PICS accordingly
Similar change in 103.3.6.3, where REGISTER_REQ is being defined. Then Figure 103-26 can be removed altogether (not needed anymore, would be exactly the same as in 10G-EPON)
In 103.3.6.4, given that laserOnTime and laserOffTime in EPoC would be sent as zeros, the SyncTime can be then calculated using rules for 10G-EPON, and still arrived to the same target value (zero). Then replace text in 103.3.6.4 with "The REGISTER MPCPDU used in EPoC is the same as that described in 77.3.6.4." and remove Figure 103-27.

Response *Response Status* **W**

REJECT.
The change would result in unnecessary work (rfOffTime appears 25x in the draft and rfOnTIme 26x, sync_time 5x) and would change several technical figures and requirements. The risk of introducing technical problems into the draft outweights the personal preference of the commenter. Removal of sync_time parameter has never been raised or discussed with the TF before.

Cl **103** *SC* **103.3.6.2** *P* **338** *L* **15** # i-135

Hajduczenia, Marek Bright House Network

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

Double reference without any need: in 77.3.6.2 (see 64.3.6.1).

SuggestedRemedy

Change to "in 77.3.6.2"

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.4.4.2** *P* **343** *L* **6** # i-136

Hajduczenia, Marek Bright House Network

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

Is there any reason for OM1 and OM2 to track Clause 64 and not Clause 77 (77.2.2.2) instead?

SuggestedRemedy

Change 64.2.2.2 to 77.2.2.2

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.1** *P* **127** *L* **9** # i-137

Hajduczenia, Marek Bright House Network

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

Unnecessary detail - already included in definition of CCDN: "passive or amplified"

SuggestedRemedy

Remove "passive or amplified"

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.1.1** *P* **127** *L* **18** # i-138

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *Notation(+=)*

For some reason, "--" and "++" look different than "-+" (they seem tobe bolded?)

SuggestedRemedy

Make sure "--" and "++" does not look different than "+=" and "-=" symbols defined in the same subclause

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See Accepted comment i-353 copied below

The notations "- =", and "+ =" do not appear elsewhere in the draft and these descriptions could be removed.
Suggested Remedy: "per comment."

Cl **101** *SC* **101.1.4** *P* **132** *L* **1** # i-139

Hajduczenia, Marek Bright House Network

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

"Clause 103 replicates functions of Clause 77 Multipoint MAC Control Protocol (MPCP) with updates necessary for EPoC operation" - this sounds a bit odd

SuggestedRemedy

Change to "Clause 103 defines Multipoint MAC Control Protocol (MPCP) for operation in EPoC, extending Clause 77 model as necessary."

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.1.4** *P* **132** *L* **19** # i-140

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

The relationship between SCRAMBLER and FCP GENERATION is not clear. It seems that data is inserted into SCRAMBLER but there is also FCP GENERATION operating at the same level, feeding PHY Link

SuggestedRemedy

Given that the FCP provides codeword pointer for FEC encoded data, it would seem be more reasonable to show FCP to generated by FEC Encoder, and not SCRAMBLER.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
FCP is actually generated by the Symbol Mapper (see 101.4.3.8).
Change the two lines seperating the SCRAMBLER, the FCP GENERATION and the SYMBOL MAPPER into dotted lines as the Scrambler and the FCP GENERATION are sub-functions of the SYMBOL MAPPER.
Note tha the FEC ENCODER is not superframe timing aware.

Cl **101** *SC* **101.3.2.1.1** *P* **138** *L* **42** # i-141

Hajduczenia, Marek Bright House Network

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

Off formatting for DS_PHY_Dsize - "DS_" is not italicized, while the rest of the term is. Why?

SuggestedRemedy

Italicize the term for consistency with other terms shown in italics. Multiple instances

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.1.1** *P* **139** *L* **15** # i-142

Hajduczenia, Marek Bright House Network

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

Given that there is only one xMII used by this standard, there is no need to create a constant for XGMII data rate. Originally, the standard was supposed to use 1G and 10G MIIs, at which time a variable / constant made sense.

SuggestedRemedy

Remove XGMII_Rate and replace with a fixed constant value of 10 in all equations

Response *Response Status* **C**

REJECT.
The term is used in SD Figure 103-8. Introducing some "magic number" would not make the standard easier on reader but would further complicate it.

Cl **101** *SC* **101.3.2.1.2** *P* **139** *L* **50** # i-143

Hajduczenia, Marek Bright House Network

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

Given the equation 101-02, it seems that PCS_Rate is really a downstream only PCS data rate

SuggestedRemedy

Rename to PCS_DS_Rate if you stick with the current naming convention

Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **101.3.2.1.5** *P* **141** *L* **1** # i-144

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+ Sed*

Figure 101-6 use think line boxes for states, while most of other dtate diagrams use thick boxes for states. See Figure 103-8 for an example

SuggestedRemedy

Consider aligning format of state diagrams for consistency

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Staff editors prefer lines of 0.5 pt.
Chnages to Cl 00

Cl **101** *SC* **101.3.2.1.5** *P* **141** *L* **26** # i-145

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **R** *Notation(+=)*

Note that += and -= operators were defined, but are not used in the UPDATE_COUNTERS state

SuggestedRemedy

Change
accResidue = accResidue + PHY_OSizeFrac
countDelete = countDelete + (DS_PHY_OSize + floor(accResidue))
accResidue = accResidue - floor(accResidue)
to
accResidue += PHY_OSizeFrac
countDelete += (DS_PHY_OSize + floor(accResidue))
accResidue -= floor(accResidue)

Response *Response Status* **C**

REJECT.
These operators were removed in a previous draft due to font difficulties with -=. The definitions are being removed from the draft. See Accepted comment i-353 copied below

The notations "- =", and "+ =" do not appear elsewhere in the draft and these descriptions could be removed.
Suggested Remedy: "per comment."

Cl **101** *SC* **101.3.2.1.5** *P* **142** *L* **40** # i-146

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **R** *Notation(+=)*

Note that += and -= operators were defined, but are not used in the UPDATE_COUNTERS state

SuggestedRemedy

Change
countDelete = countDelete + DS_PHY_OSize + DS_FEC_Osize
to
countDelete += DS_PHY_OSize + DS_FEC_Osize

Response *Response Status* **C**

REJECT.
These operators were removed in a previous draft due to font difficulties with -=. The definitions are being removed from the draft. See Accepted comment i-353 copied below

The notations "- =", and "+ =" do not appear elsewhere in the draft and these descriptions could be removed.
Suggested Remedy: "per comment."

Cl **101** *SC* **101.3.2.2** *P* **142** *L* **50** # i-147

Hajduczenia, Marek Bright House Network

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

Unnecessary details: "The EPoC PHY utilizes a 64B/66B Encoder based on that described in 49.2.5 with several important differences. The EPoC 64B/66B Encoder does not include a scrambler function as described in 49.2.6 and the output is a 65B block with a single synch header bit."

SuggestedRemedy

Change to "The EPoC PHY utilizes a 64B/66B Encoder per 49.2.5." - unless you reference Scrambler, it is not used. Period

Response *Response Status* **C**

REJECT.
Cl 49.2.5 includes the following "The contents of each block are contained in a vector tx_coded<65:0>, which is passed to the scrambler. "
EPoC does not include the refereced scrambler and passes the data instead to the FEC Encoder/DD.

Cl **101** *SC* **101.3.2.5.1** *P* **147** *L* **1** # i-148

Hajduczenia, Marek Bright House Network

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

Definition of the FIFO_FEC_TX is already present in 101.3.2.5.6, where it should be.

SuggestedRemedy

Remove lines 1-7

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.5.2** *P* **147** *L* **11** # i-149

Hajduczenia, Marek Bright House Network

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

Unit of size missing in "a single FEC LDPC codeword size of 16200 indicated by "DS""

SuggestedRemedy

Change to "a single FEC LDPC codeword size of 16200 bits indicated by "DS""
There are other locations in this subclause where the size of parity and payload is expressed in numeric value without any units

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change in 3x

Cl **101** *SC* **101.3.2.5.2** *P* **147** *L* **26** # i-150

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

What does "specify" mean in this statement: "The resulting FP bits of data are then passed to the LDPC Encoder specifying a payload length of FP - BP bits."

SuggestedRemedy

??? Seems like a logical change would be to modify text to "The resulting FP bits of data are then passed to the LDPC Encoder operating on a payload of FP - BP bits."

Response *Response Status* **W**

ACCEPT.

Cl **101** *SC* **101.3.2.5.2** *P* **148** *L* **36** # i-151

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *2 IDLES*

"two 65-bit Idle blocks" are shown in Figure 101-10 but never mentioned in text. Given the lack of self-synchronous scrambler, their purpose is questionable

SuggestedRemedy

Remove "two 65-bit Idle blocks" from Figure 101-10

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
The two CTRL blocks should satisfy the minimum IPG requirement between two adjacent packets.
Change Figure 101-11:
1)Remove “* sizeFifo > 2” from the state traversal from RECEIVE_CTRL_BLOCK to REMOVE_FIFO_HEAD. (This causes a transition REMOVE_FIFO_HEAD whenever the CNU is not transmitting.)
2)Remove the entire loopback transition (line, arrow, and text) for “sizeFifo > 2” that returned to REMOVE_FIFO_HEAD.
3)Change the “ELSE” transition from REMOVE_FIFO_HEAD to ADD_65BIT_BLOCK_TO_FIFO to “UCT”.

The above changes will remove CTRL blocks from the fifo whenever the CNU not transmitting. Any between packet CTRL (during transmitting) will remain as is.

Change Figure 101-10:
1.Remove the two blocks, label, and arrow for “two 65-bit Idle blocks” from the beginning (left most) beginning of the burst (i.e., the two after Burst Time Header).

Cl **101** *SC* **101.3.2.5.4** *P* **150** *L* **6** # i-152

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

The description in lines 12-26 is a tad chaotic - it uses B to designate burst size but also number of 65-bit blocks available for transmission.

SuggestedRemedy

The upstream burst filling process is described as follows:
START: Add burst start marker. Move to STEP 1.
STEP 1: If the number of available 65-bit blocks (Bin) is sufficient to fill a long FEC codeword (BQ >= 220), create a long FEC codeword. Repeat STEP 1 as long as Bin >= 220; otherwise move to STEP 2.
STEP 2: If 220 > Bin >= 101, create a shortened long FEC codeword and move to END; otherwise move to STEP 3.
STEP 3: If 101 > Bin >= 76, create a medium FEC codeword. Move to STEP 4.
STEP 4: If 76 > Bin >= 25, create a shortened medium FEC codeword and move to END; otherwise move to STEP 5.
STEP 5: If 25 > Bin >= 12, create a short FEC codeword. Move to STEP 6.
STEP 6: If 12 > Bin >= 1, create a shortened short FEC codeword and move to END.
END: Add burst end marker.
use appropriate formatting, as needed

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change to:
1)Add burst start marker.
2) If the number of available 65-bit blocks (Bin) is sufficient to fill a long FEC codeword (BQ >= 220), create a long FEC codeword.
3) If 220 > Bin >= 101, create a shortened long FEC codeword.
4) If 101 > Bin >= 76, create a medium FEC codeword.
5) If 76 > Bin >= 25, create a shortened medium FEC codeword.
6) If 25 > Bin >= 12, create a short FEC codeword.
7) If 12 > Bin >= 1, create a shortened short FEC codeword and move to END.
8) If Bin = 0 go to step 9 else go to step 2.
9) Add burst end marker.

Cl **101** *SC* **101.3.2.5.6** *P* **150** *L* **46** # i-153

Hajduczenia, Marek Bright House Network

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

"This variable represents the number of either 65-bit blocks input to the FEC Encoder." - the use of "either" implies an "on/nor" to complete the sentence, yet it is not present

SuggestedRemedy

Change to "This variable represents the number of 65-bit blocks input to the FEC Encoder." ?

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.5.6** *P* **151** *L* **10** # i-154

Hajduczenia, Marek Bright House Network

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

Variables seem to be ordered alphabetically apart from xfrSize, which is stuck now in between burstEnd and burstStart for some reason

SuggestedRemedy

Move xfrSize to proper location in the list

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **3** # i-155

Hajduczenia, Marek Bright House Network

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

Unclear designation: "dataPayload<> and tx_coded_out<> to add CRC40 and appropriate LDPC parity. The tx_coded_out<>" - given the the size of arrays is not given, skip "<>" - they do not add anything and individual arrays are already defined separately and clearly.

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **7** # i-156

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

Unclear what "global: " statement is. It does not follow any "C" language syntax, which is used as reference for pseudo-code in the introduction to Clause 101

SuggestedRemedy

Remove lines 7-8 - all variables are accessible as globals within the SD, no need to emphasize it over and over again.
Apply to all pseudocode in Clause 101

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Remove "Global: loc, blockCount, dataPayload, firstcodeword, lastcodeword;"
and at line 47
"Global: loc, blockCount, dataPayload, tx_coded_out, firstcodeword, lastcodeword;"

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **27** # i-157

Hajduczenia, Marek Bright House Network

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

Extra spaces in resetArray(dataPayload); and resetArray(dataParity);

SuggestedRemedy

Change ")" to ")"

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **46** # i-158

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

Code snippet for Check_dataPayload uses smaller font than Calculate_CRC40_and_3Parity (which I find more readable)

SuggestedRemedy

Align the use of font size for code snippets

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Should be 9 pt Courier New using new style defined for code.

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **10** # i-159

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Logical comparison operator (=) and assignment operator (=) are the same. Compare line 10 and 17, for example.

SuggestedRemedy

Use "==" as logical comparison for IF statements
Applies to all code snippets (except page 155, lines 3-13, which seems to be using proper C++ syntax already)

Response *Response Status* **W**

ACCEPT.

Cl **101** *SC* **101.3.2.5.7** *P* **153** *L* **51** # i-160

Hajduczenia, Marek Bright House Network

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

The code would be simpler to read if IF / ELSE was not used unless strictly necessary

SuggestedRemedy

Change to read:
IF (lastblock = FALSE AND blockCount = 220)
<tab>Calculate_CRC40_and_3Parity(LONG);
IF (lastblock = TRUE) {
<tab>IF (blockCount < 200 AND blockCount >= 101)
<tab><tab>Calculate_CRC40_and_3Parity(LONG);

Response *Response Status* **C**

REJECT.
There is no logic error as is and the TF prefers the coding style as is.

Cl **101** *SC* **101.3.2.5.7** *P* **154** *L* **15** # i-161

Hajduczenia, Marek Bright House Network

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

ELSE IF not needed -

SuggestedRemedy

Change
ELSE IF (blockCount >= 1) {
Calculate_CRC40_and_3Parity(SHORT);
}
to
IF (blockCount >= 1)
<tab>Calculate_CRC40_and_3Parity(SHORT);

Response *Response Status* **C**

REJECT.
There is no logic error as is and the TF prefers the coding style as is.

Cl **101** *SC* **101.3.2.5.7** *P* **154** *L* **23** # i-162

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

Seems like formatting gone wrong

SuggestedRemedy

Format text in lines 23/25 with T,Text and not as code snippet

Response *Response Status* **W**

ACCEPT.

Cl **101** *SC* **101.3.2.5.7** *P* **154** *L* **27** # i-163

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

Inconsistent line delimiters - previous two code snippets used ";" as line delimiter. This code snippet does not use any

SuggestedRemedy

Decide whether line delimiters are needed, and then apply prevailing style to all code snippets in the draft

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Include line delimiter in this snippet and also at line 14 after "Calculate_CRC40_and_3Parity(SHORT)"

"…" does not require a line delimiter

The commenter may wish to review the std and fix elsewhere in the std.

Cl **101** *SC* **101.3.2.5.7** *P* **155** *L* **9** # i-164

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

Inconsistent logical AND operator. Most locations use AND and here we have &&

SuggestedRemedy

Decide which of the logical operators syntax you want to follow and update code snippets accordingly. My personal preference would be for &&

Response *Response Status* **W**

ACCEPT.
REVISED
Change AND -> && 4x
pg/line
153/53
154/1
154/3
154/5

Cl **101** *SC* **101.3.2.5.7** *P* **155** *L* **15** # i-165

Hajduczenia, Marek Bright House Network

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

The way the NOTE is placed, it seems to apply to all functions in 101.3.2.5.7 and not just the last function

SuggestedRemedy

Either indent the NOTE to right to be visually part of the code snippet and move it above the code snippet, or make it part of the function definition, and not a separate NOTE for some reason

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Remove note and add text after sentence ending on line 1:
"In the CLT the lastcodeword argument to this function is always TRUE (see Figure 101–12)."

Cl **101** *SC* **101.3.2.5.8** *P* **156** *L* **31** # i-166

Hajduczenia, Marek Bright House Network

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

Unnecessary operation in state diagram: tx_coded_out<FR+40-1:40>

SuggestedRemedy

Change to tx_coded_out<FR+39:40>

Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **101.3.3.1.3** *P* **160** *L* **16** # i-167

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

Persistent use of "will" in multiple locations in the draft outside of FM. "the CLT will remove"

SuggestedRemedy

Please convert all cases of "will" to Present Simple statement (here: "the CLT removes"), unless the very specific use case of "will" is met, per Style Manual

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Changed to Clause 00 as this impact several clauses. Editors to review each instance on a case by case basis. Below is the Style Guide note on use of "will" for editors reference:
NOTE—The use of the word must is deprecated and shall not be used when stating mandatory requirements; must is used only to describe unavoidable situations. The use of the word will is deprecated and shall not be used when stating mandatory requirements; will is only used in statements of fact.

Cl **101** *SC* **101.3.3.1.4** *P* **160** *L* **26** # i-168

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

"The FEC Decoder in the CNU shall provide" - what happened with this function in the CLT, where it is more needed due to bursty feature of upstream channel?

SuggestedRemedy

Please consider adding support for signalling uncorrestable FEC codewords to CLT, where it is more useful and does not lead to additional new requirements (CRC40 is calculated in upstream anyway)

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Strike "in the CNU" in this sentence.

Cl **101** *SC* **101.3.3.1.6** *P* **161** *L* **15** # i-169

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

The description of CRC40ErrCtrl variable is not correct - it implies right now that CRC40 is calculated for individual 66B vectors, and that is not the case - there is a single CRC40 per FEC codeword.

SuggestedRemedy

Change definition of CRC40ErrCtr to read: This variable controls the processing of 66B blocks recovered from FEC codewords that fail the CRC40 checksum test. When CRC40ErrCtrl is set to TRUE, all 66B blocks recovered from a FEC codeword that fail the CRC40 checksum test are flagged as errored. When CRC40ErrCtrl is set to FALSE, all 66B blocks recovered from a FEC codeword that fail the CRC40 checksum test are not marked in any way.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Replace "When CRC40ErrCtrl is TRUE 66B vectors that fail the CRC40 checksum test are flagged as errored. When this variable is set to FALSE 66B vectors that fail the CRC40 checksum test are passed as is." with
"See 101.3.3.1.4."

Cl **101** *SC* **101.3.3.1.6** *P* **161** *L* **37** # i-170

Hajduczenia, Marek Bright House Network

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

Missing closing bracket in dataIn<(dataInSize-1:0>

SuggestedRemedy

Change to dataIn<dataInSize-1:0>

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.3.1.8** *P* **163** *L* **12** # i-171

Hajduczenia, Marek Bright House Network

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

Text in line 12 is 1 pt smaller than in remaining text.

SuggestedRemedy

Please applt T,Text and remove any overrides in this line

Response *Response Status* **C**

REJECT.
Text on line 12 is Times New Roman 10 pt per template.

Cl **101** *SC* **101.3.3.1.8** *P* **164** *L* **18** # i-172

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **R** *Notation(+=)*

I believe += and -= operands are defined

SuggestedRemedy

Change loc = loc + 65 to loc+ = 65 (twice on page 164)
Change loc = loc + (40 + BP) to loc += (40 + BP)

Response *Response Status* **C**

REJECT.
These operator were removed in a previous draft due to font difficulties with -=. The definitions are being removed from the draft. See Accepted comment i-353 copied below

The notations "- =", and "+ =" do not appear elsewhere in the draft and these descriptions could be removed.
Suggested Remedy: "per comment."

Cl **101** *SC* **101.3.3.1.8** *P* **164** *L* **26** # i-173

Hajduczenia, Marek Bright House Network

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

"CLK" is written in different font than the res of the SD. There are also scattered characters which look to be using different font, e.g.. "d" in tx_code<1> dataOut<loc> (line 40, state DECODE_FAIL)

SuggestedRemedy

Please make sure that consistent fonts are used in the SDs!

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
The two instances noted will be corrected.

Cl **101** *SC* **101.4.1** *P* **169** *L* **5** # i-174

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

per primitive definitions "a stream of IQ data pairs" is not correct, since it is a stream of I/Q pairs with channel number information

SuggestedRemedy

Change "a stream of IQ data pairs" to "a stream of I/Q data pairs and channel number"
Also, glovally align the use of "IQ pair" and "I/Q pair" - I believe these are intended to be the same

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change 2x from
"IQ data pairs" to
"I/Q value pair and channel number"

Cl **101** *SC* **101.4.1.1** *P* **169** *L* **20** # i-175

Hajduczenia, Marek Bright House Network

Comment Type **E** *Comment Status* **A** *+REV+ EZ*

Something went wrong with the variable definitions: "DS_PrflCpy ,DS_CpyCh, and US_PrflCpy variables"

SuggestedRemedy

Change to "DS_PrflCpy, DS_CpyCh, and US_PrflCpy variables" and make sure DS_CpyCh is written in italics

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.1.1** *P* **169** *L* **19** # i-176

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

The mechanics of profile change belong to Clause 102, and not Clause 101.

SuggestedRemedy

Move text from lines 19-30 to Clause 102 into proper location

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Retitle 102.4 to PHY Link applications
Move 101.4.1.1 to 102.4.5 and renumber.

Cl **101** *SC* **101.4.2** *P* **170** *L* **22** # i-177
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Definition of PMA primitives is not consistent between 101.4.2 and Figures 101-1/2/3/4

SuggestedRemedy

Update Figures 101-1/2/3/4 to match PMA_UNITDATA primitive syntax

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
In figures change to:
"PMA_UNITDATA.request(…)"
"PMA_UNITDATA.indication(…)"

Note this is consistent with style use in Fig 77-4

Cl **101** *SC* **101.4.2.1.2** *P* **170** *L* **48** # i-178
Hajduczenia, Marek Bright House Network

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

When multiple NOTEs are added one after another, they should be numbered

SuggestedRemedy

Please add numbers to NOTEs

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.3.2** *P* **172** *L* **39** # i-179
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

There is requirement for downstream clock synchronization: "CLT transmitters and CNU receivers shall conform to the requirements given in Table 101-7." - what about upstream direction? The CLT and CNU clocks are not synchronized?

SuggestedRemedy

Please add either a requirement for upstream or informative text explaining why there is no requirement for upstream (perhaps it is not needed)

Response *Response Status* **W**

REJECT.
The CLT is the only master clock in the network. This is the same time synchronization architecture as EPON or DOCSIS and should not be confused with burst mode clock recovery.

Cl **101** *SC* **101.4.3.3** *P* **173** *L* **36** # i-180
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Odd equation 101-6: ((2(10))/4096) - what is the operand between 2 and 10?

SuggestedRemedy

Please clarify what operand is expected between 2 and 10

Response *Response Status* **W**

ACCEPT.

Cl **101** *SC* **101.4.3.3** *P* **174** *L* **6** # i-181
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Equation 101-8 is not the final form

SuggestedRemedy

Change to: "6.4 x DSNcp", which is simpler and avoids unnecessary multiplications and exponents

Response *Response Status* **W**

REJECT.
While this is true it would leave the reader with no hint as to how we arrived at this magic number of 6.4. It is informative to the reader to know how the formula was arrive at in this case; 128 and 50,000 should be well known to the reader at this point.

Cl **101** *SC* **101.4.3.6.1** *P* **177** *L* **13** # i-182
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

The figure is hardly sufficiently detailed for a normative reference.

SuggestedRemedy

Change The scattered pilot pattern shall be synchronized to the PHY Link as illustrated in Figure 101-20." to "The scattered pilot pattern are synchronized to the PHY Link as illustrated in Figure 101-20."
The requirement on page 178 is sufficient, where a mathematical formula is used

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Per comment except use proper verb tense ("is" instead or "are").
Remove PICS PI2 and renumber.

Cl **101** *SC* **101.4.3.6.3** *P* **179** *L* **20** # i-183

Hajduczenia, Marek Bright House Network

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

Is there any difference between "spectral band", "spectral region", and "spectrum"?

SuggestedRemedy

Right now it seems to me that we are using three different terms to define the same concept, i.e., a contiugous amount of RF spectrum
Please cosider consolidating terms

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change spectral band to spectral region at pg 181 line 12 (only occurrence).
Use of the term spectrum 204x is not synonymous with spectral region.

Cl **101** *SC* **101.4.3.6.4** *P* **180** *L* **15** # i-184

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Not sure what "190e6" in Eq 101-9 is expected to mean. Is "6" supposed to be the expotent?

SuggestedRemedy

Please fix the equation

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
I believe this should be equivilent to
190 x 10^6

Cl **101** *SC* **101.4.3.6.4** *P* **180** *L* **25** # i-185

Hajduczenia, Marek Bright House Network

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

"The typical value proposed for CntPltSF is 48." - is this expected to be a default value? If so, it should be marked accordingly. If not, remove the statement, it means nothing

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Convert the statement to a note.

Cl **101** *SC* **101.4.3.7** *P* **182** *L* **22** # i-186

Hajduczenia, Marek Bright House Network

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

This seems like a set of requirements you'd want to be mandatory: "The CLT initializes the scrambler at the
first codeword of the downstream frame. The CNU initializes the scrambler with the hexadecimal value at
the beginning of each grant."

SuggestedRemedy

Convert into "shall" statements + add PICS for them.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change to:
"The CLT shall initialize the scrambler at the first codeword of the downstream frame. The CNU shall initialize the scrambler at the beginning of each grant."
Add PICS :
"EN2 | CLT scrambler initialization| 101.4.3.7 | at the first codeword of the downstream frame | CLT:M | Yes [ ] No [ ] N/A [ ]"
"EN3 | CNU scrambler initialization| 101.4.3.7 | at the beginning of each grant | CNU:M | Yes [ ] No [ ] N/A [ ]"
Renumber PICS Table.

Cl **101** *SC* **101.4.3.8.1** *P* **182** *L* **31** # i-187

Hajduczenia, Marek Bright House Network

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

It is not clear what "begins by" is supposed to imply - it initializes scrambler and other functions. Period

SuggestedRemedy

Change to "Initializes (resetting) the scrambler function (see 101.4.3.7), sets an FCPbitCnt to to 1 (see 101.4.3.8.7), and initializes the mapping function with the lowest numbered active subcarrier."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Per comment but use "(resets)" instead of "(resetting)"

Cl **101** *SC* **101.4.3.8.1** *P* **182** *L* **35** # i-188

Hajduczenia, Marek Bright House Network

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

Variable formatting

SuggestedRemedy

Put burstStart and burstEnd in italics, if that is the prevailing formatting style you're using. There are more instances of such inconsistent formatting in the draft

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.3.8.2** *P* **183** *L* **41** # i-189

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R**

The term "symbol" is used and abused across different functions without any formal definition. As is, it just means "some amount of data" but it is not really clear what the difference between symbol in PCS and in PMA is.

SuggestedRemedy

Please clarify the use of the word"symbol" in the draft, if needed creating definitions of "symbol" within each function, if they are different. There are symbols in PCS, in PMA, at PHY layer, etc.

Response *Response Status* **W**

REJECT.
The term Symbol is formally defined in Cl 1. In this case the usage seems to agree with the formal definition.
The commenter is invited to bring to our attention instances which do not agree with this definition.

Cl **101** *SC* **101.4.3.8.3** *P* **184** *L* **15** # i-190

Hajduczenia, Marek Bright House Network

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

These are "up to" five channels, with one being mandatory and remaining 4 optional

SuggestedRemedy

Change "As five OFDM channels are accommodated" to "As up tp five OFDM channels are accommodated"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
"As up to" instead of "As up tp"

Cl **101** *SC* **101.4.3.8.3** *P* **184** *L* **19** # i-191

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Untestable requirement: "The symbol mapping function therefore shall process all active subcarriers
per symbol across all OFDM channels." - there is no measurement or reference point allowing access to mapper function to confirm that it is indeed happening

SuggestedRemedy

Convert itno a statement. Remove PICS

Response *Response Status* **W**

REJECT.
This is testable at the MDI connector using an NSA that looks at OFDM symbols.

Cl **101** *SC* **101.4.3.8.3** *P* **185** *L* **6** # i-192

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

There are multiple lists of steps in the draft. Some are numbered as the one startign in line 6. Some include explicit reference to "Step X" instead. Others use a combination of both styles.

SuggestedRemedy

Please use one style for description of steps, prefereably the one page 185, line 6

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Reformat to Ll1,NumberedList:
Pg 150 line 13-29 (see comment i-192)
Pg 182 line 30-48
Pg 214 line 30-40

Note that the list of steps starting on pg 180 line 29 and extending to page 181 line 35 does not lend itself to this format and will not be changed.

Cl **00** *SC* **101.4.3.8.4** *P* **186** *L* **6** # i-193

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

"downstream frame" - another one of ambiguous terms. The only definition I can find is in 101.4.3.5, and it is unclear, since it references symbols, which are not defined by themselves.

SuggestedRemedy

Please provide clear definition of "downstream frame" and "upstream frame". I would also suggest that these be renamed to "PHY frames" or soemthing similar, emphasizing the fact that we do not mean MAC frames by any chances

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Changed to CL 00

Change
"downstream frame" to
"downstream OFDM frame"
at (pg/line): 171/7, 176/10, 176/12, 182/23. 185/50, 186/5, 186/6, 186/9, 186/24. 188/4

Change "upstream frame" to
"upstream OFDM superframe"
in Cl 100 pg 87 line 31

Change "upstream frame" to
"upstream PHY Link frame"
in Cl 102 (pg/line): 258/6, 258/28, 258/48, 256/26 (102.3.2)

On pg 262 Cl 102.2.7.3 Line 48
Change "EPoC frame"
to "PHY Link frame"

Cl **101** *SC* **101.4.3.8.5** *P* **186** *L* **11** # i-194

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

Given that there is no state diagram to follow, what is the purpose of separating variables, constant, counters and functions in 101.4.3.8.5/6/7/8? They could be aggregated into a single subclause, at best left in 101.4.3.8.4 if they are really needed. This also avoid the problem of them being used to describe content of 101.4.3.8.4 and being at the same heading level :)

SuggestedRemedy

Per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
remove 101.4.3.8.5, 101.4.3.8.6 & 101.4.3.8.8 Pull the text of 101.4.3.8.7 into a “where” statement following Eq101-17 and strike the clause number.

Cl **101** *SC* **101.4.3.9.2** *P* **186** *L* **43** # i-195

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

We have a requirement to perform time interleaving and when it is done (lines 43/44) but no requirement that I can find to follow the specific methodology described in this draft

SuggestedRemedy

Please add a requirement to perform time interleaving per method described in this subclause. Add PICS.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
At the end of the first sentence of 101.4.3.9.2 add "as described in this subclause."
change Value/Comment of EN3 from:
"Time interleaving meets the requirement of 101.4.3.9.2" to
"Time interleaving as described in 101.4.3.9.2"

Cl **101** *SC* **101.4.3.9.2** *P* **187** *L* **21** # i-196

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Clearly untestable: The CLT shall support values of DS_TmIntrlv from 1 to 32 (see 101.4.3.9.5).

SuggestedRemedy

Convert into statement. Update PICS

Response *Response Status* **W**

REJECT.
This is testable at the MDI connector using an NSA that looks at OFDM symbols.

Cl **101** *SC* **101.4.3.9.3** *P* **187** *L* **43** # i-197

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

We have a requirement to perform time interleaving and when it is done (lines 52/53) but no requirement that I can find to follow the specific methodology described in this draft

SuggestedRemedy

Please add a requirement to perform time interleaving per method described in this subclause. On pages 190/191 there are reference implementations for specific functions for frequency interleaver, which I would expect to be functionally normative, as we always do, ie., require the implementation produce the same result.
Add PICS.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See comment i-195
Response copied below:
At the end of the first sentence of 101.4.3.9.2 add "as described in this subclause."
change Value/Comment of EN3 from:
"Time interleaving meets the requirement of 101.4.3.9.2" to
"Time interleaving as described in 101.4.3.9.2"

Cl **101** *SC* **101.4.3.9.3** *P* **189** *L* **37** # i-198

Hajduczenia, Marek Bright House Network

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

Tiny little text

SuggestedRemedy

Please make sure text of inline equations meets the T,Text style font size requirements

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.3.11** *P* **193** *L* **41** # i-199

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Sounds like a requirement for CLT/CNU transmitter: These 3800 maximum active subcarriers shall
occupy the range 148 k 3947, where k is the spectral index of the subcarrier in Equation (101-25).

SuggestedRemedy

There is no DUTright now. Please rewrite and make it a requirement for CLT/CNU Tx (I guess)

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change from :
"These 3800 maximum active subcarriers shall …" to
"These 3800 maximum active subcarriers of a CLT or CNU OFDM transmitter channel shall …"

Cl **101** *SC* **101.4.3.12** *P* **195** *L* **24** # i-200

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Two separate requirements, one would be enough

SuggestedRemedy

Change to: "In the downstream direction, the CLT shall use one of the permissible values for DSNcp and DSNrp given in Table 101-10 and Table 101-11, respectively, selected such that DSNrp < DSNcp." Update PICS accordingly

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Per comment and change OC5 from:
"As shown in Table 101–11" to
"As shown in Table 101–11 and less than CP value"

Strike PICS OC6 and renumber

Cl **101** *SC* **101.4.3.12** *P* **195** *L* **39** # i-201

Hajduczenia, Marek Bright House Network

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

Rather than add notes to Table 101-10/11, add "[OFDM Clock period (1/204.8 MHz)] under DSNcp and DSNrp.

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.3.12** *P* **197** *L* **1** # i-202

Hajduczenia, Marek Bright House Network

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

Given that we have apparently a separate subclause for upstream windowing, the note is not needed

SuggestedRemedy

Remove the note

Response *Response Status* **C**

REJECT.
The figure is to be used as a reference for both US & DS (note that 101.4.4.10 references 101.4.3.12) and it may be usefule to the reader to clarify which variables to us for US & DS. The note certianly does not create any confusion.

Cl **101** *SC* **101.4.3.12.1** *P* **198** *L* **10** # i-203

Hajduczenia, Marek Bright House Network

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

Given the number of instances of OFDM Clock period term in the draft, would it make sense to define this as unit up front in each clause and not have to carry it onwards everywhere?

SuggestedRemedy

Per comment

Response *Response Status* **C**

REJECT.
This would only serve to introduce more change in the draft and serve no useful purpose.

Cl **101** *SC* **101.4.3.13** *P* **198** *L* **27** # i-204

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

These seem like downstream OFDM channel requirements, not just any requirements

SuggestedRemedy

Change "The 10GPASS-PX PHY shall comply" to "The 10GPASS-PX-D PHY shall comply" since we are placing requirements on Tx side only
Update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Per comment, no change to PICS required.

Cl **101** *SC* **101.4.4.2** *P* **199** *L* **29** # i-205

Hajduczenia, Marek Bright House Network

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

"based on downstream tracking" - likely, "based on tracking downstream channel"

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
change to:
"based on downstream channel tracking"

Cl **101** *SC* **101.4.4.2.1** *P* **199** *L* **40** # i-206

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Unnecessary separate requirements

SuggestedRemedy

Change to: "The CNU shall lock the frequency of the upstream Subcarrier Clock (50 kHz) and subcarrier frequency to the 10.24 MHz Master Clock derived from the downstream OFDM signal."
Update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change to "The CNU shall lock the frequency of the upstream Subcarrier Clock (50 kHz) and lock each upstream subcarrier frequency to the 10.24 MHz Master Clock derived from the downstream OFDM signal."

Change OT8 Value/Comment from
"CNU Subcarrier Clock locked to 10.24 MHz Master Clock"
to
"CNU Subcarrier Clock and 50 kHz subcarrier frequency locked to 10.24 MHz Master Clock"

Strike OT11 & renumber.

Cl **101** *SC* **101.4.4.3.1** *P* **200** *L* **21** # i-207

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Unnecessary requirement - it is not testable anyway: The upstream Superframe shall be composed of the Probe Period followed by 256 OFDMA symbols.

SuggestedRemedy

Change into informative text instead. Remove PICS

Response *Response Status* **W**

REJECT.
This is easily observable with a NSA and is required for proper interoperability.

Cl **101** *SC* **101.4.4.3.1** *P* **200** *L* **21** # i-208

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

what is the difference between "upstream frame" and "upstream superframe"? Both are used, with no clear definitions

SuggestedRemedy

Please clarify whether these are the same. In downstream, we only use "downstream frame"

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See comment i-193 Response copied below
Change
"downstream frame" to
"downstream OFDM frame"
at (pg/line): 171/7, 176/10, 176/12, 182/23. 185/50, 186/5, 186/6, 186/9, 186/24. 188/4

Change "upstream frame" to
"upstream OFDM superframe"
in Cl 100 pg 87 line 31

Change "upstream frame" to
"upstream PHY Link frame"
in Cl 102 (pg/line): 258/6, 258/28, 258/48, 256/26 (102.3.2)

On pg 262 Cl 102.2.7.3 Line 48
Change "EPoC frame"
to "PHY Link frame"

Cl **101** *SC* **101.4.4.3.2** *P* **201** *L* **35** # i-209

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

No DUT. Rewrite to "The 10GPASS-XR-U shall start the transmission of the upstream (super)frame with ..."

SuggestedRemedy

Per comment. Update PICS
The same issue in 101.4.4.3.4

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change from
"An OFDMA transmission shall start …" to
"A CNU OFDMA transmission shall start …"

Change TX4 from "Burst begins with" to "CNU Burst begins with"

Cl **101** *SC* **101.4.4.3.5** *P* **202** *L* **5** # i-210

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **R** *RBsize/len*

Unnecessarily circular definition. Rather than make TBsize a Boolean that points to specific RB size, just make it an unsigned integer which holds the size of RB. Then Rblen function is not needed at all and could be removed

SuggestedRemedy

Per comment

Response *Response Status* **C**

REJECT.
There are instances of RBsize and 17 instances of RBlen. Each of these instances would need to be visited and posibly edited at the editord discreation (cannot do a simply global replace).
The possibility of introducing a technical error into the draft at this point outweights the merits of the change.

Cl **101** *SC* **101.4.4.3.5** *P* **202** *L* **16** # i-211

Hajduczenia, Marek Bright House Network

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

Odd statement: "This clear on read Boolean"

SuggestedRemedy

Change to "This variable" (type is already defined)
Add a statement at the end "This variable is cleared on read."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change to "This clear on read variable"

Cl **101** *SC* **101.4.4.3.5** *P* **202** *L* **16** # i-212

Hajduczenia, Marek Bright House Network

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

No need to repeat variable type when it is explicitly defined using TYPE field: "This Boolean variable ... "

SuggestedRemedy

Change all instances of "This Boolean variable" to "This variable" when TYPE field is present explicitly and set to Boolean already

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.3.5** *P* **202** *L* **39** # i-213

Hajduczenia, Marek Bright House Network

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

I assume both SYMcount and Rbmode variables donot need to be negative.

SuggestedRemedy

Change type to "unsigned integer"

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.3.6** *P* **203** *L* **17** # i-214
Hajduczenia, Marek Bright House Network

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

"SYMcount = SYMcount + 1" uses different font than rest of the SD

SuggestedRemedy

Align font use

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.3.6** *P* **203** *L* **1** # i-215
Hajduczenia, Marek Bright House Network

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

We have ++ and -- operators defined

SuggestedRemedy

Change "SYMcount = SYMcount + 1" to "SYMcount ++"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change in two places in Figure 101–31

Cl **101** *SC* **101.4.4.3.6** *P* **203** *L* **28** # i-216
Hajduczenia, Marek Bright House Network

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

Unclear precedence in: "If (SYMcount - 6) mod RBmod = 1"

SuggestedRemedy

Change to "If ((SYMcount - 6) mod Rbmod) = 1"

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.4** *P* **203** *L* **46** # i-217
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

No DUT in "Subcarrier configuration in an EPoC OFDM channel of 192 MHz shall conform ... "

SuggestedRemedy

rewrite the requirement to include actual DUT (CLT/CNU). Update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change "192 MHz shall conform" to "192 MHz at the CNU shall conform"
PICS ok as is (CNU: M)

Cl **101** *SC* **101.4.4.4.3** *P* **204** *L* **29** # i-218
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

Undefined DUT: "EPoC devices ... "

SuggestedRemedy

rewrite the requirement to include actual DUT (CLT/CNU). Update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change "EPoC devices" to "CNUs"
At pg 175 line 2 change "An EPoC Phy" to "CLTs"
Change Status of PICS TX1 to CLT:M, add "N/A[]" to support col.

Cl **101** *SC* **101.4.4.5.1** *P* **205** *L* **35** # i-219
Hajduczenia, Marek Bright House Network

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

Really inconsistent variable naming - in this subclause, it seems that the majority of the variables are all upper caps, which makes Figure 101-32 look just odd

SuggestedRemedy

Consider using some consistent naming scheme, at least within the draft.

Response *Response Status* **C**

REJECT.
This change would not improve readability.

Cl **101** *SC* **101.4.4.5.1** *P* **206** *L* **17** # i-220
Hajduczenia, Marek Bright House Network

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

Extra " after Boolean

SuggestedRemedy

Strike "

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.5.1** *P* **206** *L* **30** # i-221
Hajduczenia, Marek Bright House Network

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

The range of this variable implies it should be unsigned intereger

SuggestedRemedy

Per comment. Also, the grand majority of the variables defined in this subclause should be integers, since they are always positive. IRB is the only exception I can see, which needs to support negative values.

Response *Response Status* **C**

REJECT.
Should the implementor choose to use a signed integer it will not impact interoperability in any way. This is purely a matter of personal preference.

Cl **101** *SC* **101.4.4.5.3** *P* **211** *L* **44** # i-222
Hajduczenia, Marek Bright House Network

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

Can BITPOS be negative?

SuggestedRemedy

Change "BITPOS <=0" with "ELSE"

Response *Response Status* **C**

REJECT.
The SD is not in error and the meaning is clear.

Cl **101** *SC* **101.4.4.5.4** *P* **212** *L* **5** # i-223
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

It seems like there should be a requirement about this somewhere: "The CLT ensures a minimum gap time between bursts ..." to make sure that the CLT receiver can operate correctly, but I could not locate such a requirement anywhere

SuggestedRemedy

Consider converting this statement into a requirement either in here, or adding a new one where the CLT transmitter is defined (likely in Clause 103, since that is what drives upstream scheduling)

Response *Response Status* **W**

REJECT.
See CC5 in 103.4

Cl **101** *SC* **101.4.4.5.4** *P* **212** *L* **9** # i-224
Hajduczenia, Marek Bright House Network

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

Some odd strikethrough in the word "time_quantaum"

SuggestedRemedy

Remove "a" in this word. Also, remove italics from this word - it is not variable.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Remove "a", (note time_quantum is used in Eq 101-33 at line 12 and so should be considered a variable)
Good catch.

Cl **101** *SC* **101.4.4.6.1** *P* **213** *L* **51** # i-225
Hajduczenia, Marek Bright House Network

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

Seems like there is space missing between "TYPE:" and following variable definition

SuggestedRemedy

Scrub the draft, make sure there is space after "TYPE:" definition

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Pg/line: 161/20, 181/39, 213/51, 214/2, 214/5, 263/7

Cl **101** *SC* **101.4.4.7.1** *P* **214** *L* **15** # i-226
Hajduczenia, Marek Bright House Network

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

Incomplete variable formatting for "RB_Frame"

SuggestedRemedy

Make sure "R" is italicized

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.8.1** *P* **214** *L* **53** # i-227
Hajduczenia, Marek Bright House Network

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

Missing space between numeric value and units in "3dB"

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.8.2** *P* **215** *L* **5** # i-228
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

It seems that both statements in lines 5 and 6 should be converted into requirements - I do not see any other requirements for burst marker structure anywhere

SuggestedRemedy

Per comment + add PICS

Response *Response Status* **W**

REJECT.
See TX4 & TX5 and states PLACE_START_MARKER and PLACE_END_MARKER in SD Figure 101–33

Cl **101** *SC* **101.4.4.9.1** *P* **220** *L* **25** # i-229
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

Is this externally observable: "The CNU shall normalize the newly calculated coefficients?

SuggestedRemedy

If so, leave it as is. If not, convert into a statement instead and remove associated PICS

Response *Response Status* **W**

REJECT.
This is observable by the CLT and NSAs. It is the only way the CLT can update the coefficients to observe the CLT's output and set what they need to be. The CNU must update upon receiving from the CLT. As this is essentially a CLT/CNU feedback loop.

Cl **101** *SC* **101.4.4.9.1** *P* **220** *L* **35** # i-230
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

This requirement seems more like a product spec than anything that we need for Tx/Rx definitions.

SuggestedRemedy

Convert into informative text instead and remove any associated PICS

Response *Response Status* **W**

REJECT.
This must be a CLT requirement in order to meet interoperability.

Cl **101** *SC* **101.4.4.9.2** *P* **220** *L* **41** # i-231
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

All testing modes and testign procedures should be moved to 101.4.6 which already defines PMA testing

SuggestedRemedy

Per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Move to 101.4.6.1 & renumber

Cl **101** *SC* **101.4.5** *P* **223** *L* **5** # i-232

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

no DUT in requirement: the output bit stream of
the scrambler shall be mapped to QAM symbols such that first bit is the least-significant bit of the first QAM
subcarrier constellation m-tuple, see Figure 101-39

SuggestedRemedy

Please add DUT for this requirement and then update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change:
"output bit stream of the scrambler" to
"output bit stream of the CLT and CNU Symbol Mapper"
No change to PICS needed.

Cl **101** *SC* **101.4.5.3** *P* **224** *L* **20** # i-233

Hajduczenia, Marek Bright House Network

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

More tiny equations

SuggestedRemedy

Please fix equation size to match T,Text definition

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.5.4** *P* **225** *L* **4** # i-234

Hajduczenia, Marek Bright House Network

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

Incorrent multiplication operator

SuggestedRemedy

Please use "x" instead - multiple instances in draft

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Instructions on how to: In Eq Editor; cut term(s) to right of offensive dot, select multi operator, paste cut term(s)
Locations noted (pg/ln); 225/24, 226/20-25

Cl **101** *SC* **101.4.5.5** *P* **227** *L* **37** # i-235

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

No DUT in "Both real and imaginary axes of a QAM constellation shall be scaled..."

SuggestedRemedy

Please add DUT for this requirement and then update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change
"shall be scaled using" to
"shall be scaled by the CLT or CNU transmitter using"

Not change to PICS required.

Cl **101** *SC* **101.5.1** *P* **228** *L* **41** # i-236

Hajduczenia, Marek Bright House Network

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

Formatting mess

SuggestedRemedy

Change "In 13.1.4 of IEEE STD 802.1AS 2011 "Time synchronization in EPON"," to "In IEEE Std 802.1AS, 13.1.4,"

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.5.1** *P* **228** *L* **54** # i-237

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

What is the purpose of T_CORR_CLT where all it does it replace DiffDelay/2?

SuggestedRemedy

Replace T_CORR_CLT with "DiffDelay/2". Remove T_CORR_CLT definition
Same for T_CORR_CNUi on page 229, line 16

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Use DiffDelay_CLT/2 & DiffDelay_CNU/2

Cl **101** *SC* **101.5.1** *P* **229** *L* **1** # i-238

Hajduczenia, Marek Bright House Network

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

DiffDelay_CLT defined and not used.

SuggestedRemedy

Remove
Same for DiffDelay_CNUi on page 229, line 17

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See i-239 (response copied below).

Change the title of 101.5 from
"Applicability of IEEE Std 802.1AS, Clause 13 for EPoC time transport"
to
"Applicability of Clause 90- and IEEE Std 802.1AS, Clause 13 for EPoC time transport"

Pg 228 line 32? Change
"time delay asymmetries" to
"time delays described in Clause 90"

Remove DiffDelay, DiffDelayTol & TimeSyncCapable (101.5.3 & Table 101-1)

In 101.5.x
For CLT Replace DiffDelay with (Maximum PMA/PMD transmit path data delay - Maximum PMA/PMD receive path data delay + Minimum PMA/PMD transmit path data delay - Minimum PMA/PMD receive path data delay) /2

For CNU replace DiffDelay with (Maximum PMA/PMD receive path data delay - Maximum PMA/PMD transmit path data delay + Minimum PMA/PMD receive path data delay - Minimum PMA/PMD transmit path data delay) /2

Editor given lic. To use appropriate variable names and add to Table 101-1 (may want to indicate that these variablel are not communicated via PHY Link with a footnote).

Remove 101.5.4 Derivation of Methodology

Cl **101** *SC* **101.5** *P* **228** *L* **32** # i-239

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *TimeSync +EX+*

It seems that the whole idea relies on measuring transmit and receive delay between MDI and MII interfaces, which are already supported by 802.3bf.

SuggestedRemedy

Instead of adding new variables to keep track of the delay through stack, suggest to:
1) add mandatory support for Clause 90 (Ethernet support for time synchronization protocols) and TSSI interface, which allows 802.1AS applications perform all neecessayr measurements and compensate for residency time in PCS/PMA
2) remove existing calculations in 101.5.1/2/3 - these are not necessary once you provide native access to residency time measurements in both receive and transmit directions
3) add support for registers: 1.1800 ... 1.1808 and 3.1800 ... 3.1808, which will give you measurement capability as well as Tx and Rx path delay measurements (min/max) which can be reported then between devices via PHY Link
Given that all register and interface work is done, this is the simplest mechanism to support 802.1AS without making purpose-built extensions into this PHY only

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Chang ethe title of 101.5 from
"Applicability of IEEE Std 802.1AS, Clause 13 for EPoC time transport"
to
"Applicability of Clause 90- and IEEE Std 802.1AS, Clause 13 for EPoC time transport"

Pg 228 line 32? Change
"time delay asymmetries" to
"time delays described in Clause 90"

Remove DiffDelay, DiffDelayTol & TimeSyncCapable (101.5.3 & Table 101-1)

In 101.5.x
For CLT Replace DiffDelay with (Maximum PMA/PMD transmit path data delay - Maximum PMA/PMD receive path data delay + Minimum PMA/PMD transmit path data delay - Minimum PMA/PMD receive path data delay) /2

For CNU replace DiffDelay with (Maximum PMA/PMD receive path data delay - Maximum PMA/PMD transmit path data delay + Minimum PMA/PMD receive path data delay - Minimum PMA/PMD transmit path data delay) /2

Editor given lic. To use appropriate variable names and add to Table 101-1 (may want to indicate that these variablel are not communicated via PHY Link with a footnote).

Remove 101.5.4 Derivation of Methodology

Cl **101** *SC* **101.6.4.4** *P* **234** *L* **29** # i-240

Hajduczenia, Marek Bright House Network

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

Seems like font in this table is larger than in previous tables

SuggestedRemedy

Align font size
Same in 101.6.4.9

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.6.4.7** *P* **236** *L* **33** # i-241

Hajduczenia, Marek Bright House Network

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

Wrong "," placement in LDPC code designation

SuggestedRemedy

Is " ," and should be ", " - affects FE4 and FE5

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.6.4.10** *P* **238** *L* **28** # i-242

Hajduczenia, Marek Bright House Network

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

Unclear mathematical meaning: (Ck)^2

SuggestedRemedy

It is probably meant to be (Ck)²

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102** *P* **239** *L* **1** # i-243

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

All of the recent non-fiber based projects define their own Operations, Administration, and Maintenance (OAM) protocols, providing the function of what you call "PHY Link". Even GPOF does it in their own OAM specification. All of these OAMs are PHY specific, and are aptly called "1000BASE-T1 OAM", "1000BASE-H OAM", etc.

SuggestedRemedy

Rename "PHY Link" to "10GPASS-XR OAM", which is what this really is - it is an OAM link that allows for exchange of some data and provides for bidirectional low-level link between CLT and CNU
The proposed name does not conflict with Clause 57 OAM, and has been accepted by multiple projects consistently.

Response *Response Status* **W**

REJECT.
The term PHY Link is clear, unambigous and not technically incorrect. It appears in the draft 542 times. Changing now would be a massive change to resolve a personal preference and at this point in the process is ill advised and will likely introduce errors into the draft.

Cl **102** *SC* **102.1** *P* **239** *L* **8** # i-244

Hajduczenia, Marek Bright House Network

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

There is no difference that I can see between "join" and "rejoin" - the registration process is still the same

SuggestedRemedy

Strike "or rejoin"

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.1** *P* **239** *L* **10** # i-245

Hajduczenia, Marek Bright House Network

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

"In a multi OFDM channel PHY only OFDM channel one has a PHY Link." - a pretty confusing statement, likely due to lack of commas

SuggestedRemedy

Change to "In a multi channel 10GPASS-XR PHY, only the first downstream and upstream OFDM channels have a PHY Link." - reference to architecture figures from Clause 101 might be welcome, to show where PHY Link is actually located

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change to "In a multi OFDM channel PHY, only OFDM channel one has a PHY Link (see Figure 100-1 and Figure 100-3)."

Cl **102** *SC* **102.1** *P* **239** *L* **13** # i-246

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

And one more "frame" in this draft.

SuggestedRemedy

When referring to a frame in the context of a frame of PHY Link Channel, please use "PHY Link frame" consistently in Clause 102

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change "Each frame is composed" to "Each PHY Link frame is composed"

Cl **102** *SC* **102.1** *P* **239** *L* **17** # i-247

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

"Probe Period" or "Probing Period"

SuggestedRemedy

Pick one, use consistently

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change the one instance of Probing Period to Probe Period.

Cl **102** *SC* **102.1.1** *P* **240** *L* **1** # i-248

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **R**

Figure 102-1 is really composed of multiple figures, where you show downstream PHY Link frame and its elements. This should be broken into separate figures: 102-1 Downstream PHY Link frame, 102-2 EPFH field in Downstream PHY Link frame, etc.
Then change "The PHY Link frame is illustrated in Figure 102-1 and Figure 102-2." to "The structure of the downstream PHY Link frame is shown in Figure 102-1, followed by structure of individual fields in the downstream PHY Link frame shown in Figure 102-2 ..."
Apply similar changes to current Figure 102-2, to break down Upstream PHY Link frame into pieces.

SuggestedRemedy

Per comment - this will allow to reference specific figures later on, when fields are being described.

Response *Response Status* **W**

REJECT.
There is nothing unclear with the current figure and how it is referenced. The TF feels the single figure is preferred.

Cl **102** *SC* **102.1.1** *P* **241** *L* **3** # i-249

Hajduczenia, Marek Bright House Network

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

This requirement should be more specific: "The
PHY Link frame shall be fixed; the downstream length is 128 OFDM symbols long and the upstream length
is 262 OFDM symbols long."

SuggestedRemedy

Change to "The downstream PHY Link frame shall be 128 OFDM symbols long. The upstream PHY Link frame shall be 262 OFDM symbols long."
Update PICS accordingly.
It might be also a better idea to rephrase these requirements to use CLT/CNU PHY Link instance as DUT

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See accepted TR comment i-296
Suggested Remedy: change to "The PHY Link frame length shall be fixed:"

Cl **102** *SC* **102.1.2** *P* **241** *L* **40** # i-250

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *Fig 102-1/2*

It is not clear how Figure 102-3 and 102-4 fit with the layering model shown in Figures 101-1, where PHY link has a single interface (unnamed, undefined) to PMA IDFT , one interface to FRAME TIMING, one interface to SUBCARRIER etc.
To be consistent, Figures 102-3 and 102-4 should be demonstrated in the same layout, or have all interfaces defined and used consistently between clauses. Otherwise it is very hard to put these two together and understand what is really happening in here.

SuggestedRemedy

Per comment - my preference would be to specify individual interfaces between PHY Link and PMA/PMD and have them used in Clause 102 in Figure 102-3/4 consistently with rchitecture drawings from Clause 101

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Align Figures 102-2 & 3 to the names used in Fig 101-1 to 4.

In Figure 102-3
change:
Frame Timing -> FRAME TIMING
Subcarrier Configuration and bit loading -> OFDM FRAME CONFIGURATION AND BIT LOADING
from PMA (3x) -> PILOT PROCESSING, EQUALIZATION, AND FFT
to PMD -> ????
To PMA -> IDFT 1
Tx FCP from PCS -> FCP GENERATION
Strike Probe & PHY Disc to PCS and remove PROBE RCV and attached SYM MAP blocks and PMD_SIGNAL.request

In Figure 102-3
change:
Subcarrier Configuration and bit loading -> OFDM FRAME CONFIGURATION AND BIT LOADING
Frame Timing -> FRAME TIMING
Rx FCP to PCS -> FCP ALIGNMENT
from PMA -> PILOT PROCESSING, EQUALIZATION, and FFT 1
to PMA (3x) -> PRE-EQUALIZATION AND IDFT
to PMA (TxType) -> CYCLIC PREFIX AND WINDOWING
Add PMD_SIGNAL.request going to PMD FUNCTIONS

Cl **102** *SC* **102.1.2** *P* **241** *L* **19** # i-251

Hajduczenia, Marek Bright House Network

Comment Type **T** *Comment Status* **A** *Fig 102-1/2*

"EPoC Variables ariables"

SuggestedRemedy

Seems like repetition, unless there is some specific need for "ariables"
Also, there are some trimmed names like "SYM MAP", D'INTERLEAVER", PROBE RCV, which are not explained under the figure and one has to guess what they are intended to mean. Either expand them to full words, of it there is space missing - expand acronyms under the figures. This applies to Figure 102-3/4 alike

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Strike "airables"
Fig 102-3 change
FEC ENCODE to FEC ENC
FEC to FEC DEC
INTERLEAVING to INTL
D'INTERLEAVER TO DEINTL

Add key to Figure 102-3
DEINTL = DEINTERLEAVER
FEC DEC = FEC DECODER
FEC ENC = FEC ENCODER
INTL = INTERLEAVER
PCS = PHYSICAL CODING SUBLAYER
PHY DISC RCV = PHY DISCOVERY RECEIVE
PHY DISC = PHY DISCOVERY
PMA = PHYSICAL MEDIUM ATTACHMENT
PMD = PHYSICAL MEDIUM DEPENDENT
PROBE RCV = PROBE RECEIVE
SYM MAP = SYMBOL MAPPER

In Fig 104-4
remove stray char in from of "DISC" in PHY DISC GEN block
Change:
FEC to FEC ENC
FEC DECODE to FEC DEC
SYMBOL DEMAP to SYM MAP
DEINTERLEAVER to DEINTL
INTERLEAVE to INTL

Add key to Figure 102-4
DEINTL = DEINTERLEAVER
FEC DEC = FEC DECODER
FEC ENC = FEC ENCODER

INTL = INTERLEAVER
PCS = PHYSICAL CODING SUBLAYER
PHY DISC GEN = PHY DISCOVERY RECEIVE
PHY DISC GEN = PHY DISCOVERY GENERATOR
PMA = PHYSICAL MEDIUM ATTACHMENT
PMD = PHYSICAL MEDIUM DEPENDENT
PROBE GEN = PROBE GENERATOR
SYM MAP = SYMBOL MAPPER

Cl **102** *SC* **102.1.3** *P* **242** *L* **32** # i-252

Hajduczenia, Marek Bright House Network

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

"passed over the PHY Link and all PHY to PHY signaling" - I do not think that 'all PHY to PHY signaling' is correct here - there are signals which end up in data path and not PHY path

SuggestedRemedy

Strike "and all PHY to PHY signaling"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change "PHY Link and all PHY to PHY signaling" to
"PHY Link, as well as all PHY to PHY signaling"

Cl **102** *SC* **102.1.3** *P* **242** *L* **35** # i-253

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

What is the difference between "message block" and "signalling type" - they are mentioned in the same context, implying these are just fields in the PHY Link frame

SuggestedRemedy

Change "PHY to PHY signalling types" to "PHY message blocks" if that is what is intended here. Please make this change consistently in Clause 102 - there are many instances where creative terminology is made on the fly to mean "PHY Link message block"
Make sure all standalone "message block" instances are converted into "PHY Link message block" (e.g., PHY signalling types, PHY types (not meaning a PHY type), etc.)

Response *Response Status* **W**

REJECT.
Neither PHY Discovery Response nor Probing are PHY Link messages.
The commenter is invited to make specific comments agains specific offensive text if such exists.

Cl **102** *SC* **102.1.3** *P* **242** *L* **41** # i-254

Hajduczenia, Marek Bright House Network

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

MSB first is clear enough.

SuggestedRemedy

Strike ", as illustrated in Figure 102-5." and remove Figure 102-5

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.1.4.1.1** *P* **243** *L* **37** # i-255

Hajduczenia, Marek Bright House Network

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

Structure of Table 102-1 is different than Table 101-3 (as example)

SuggestedRemedy

Add the missing row and column designations.
The same applies to Table 102-2

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.1.4.2** *P* **244** *L* **18** # i-256

Hajduczenia, Marek Bright House Network

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

Style of Steps 1...3 and then Step 1 ...2 is not correct

SuggestedRemedy

Please apply proper numbered list style

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Reformat to LI1,NumberedList:

Cl **102** *SC* **102.1.4.2** *P* **244** *L* **16** # i-257

Hajduczenia, Marek Bright House Network

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

"Shortening encoder consists of 3 steps" - the encode does not consist of any steps

SuggestedRemedy

Change to "The operation of the shortening PHY Link encoder includes the following 3 steps:"
Similarly, in line 24, change to "The operation of the puncturing PHT Link encoder includes the following 2 steps:"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change
"Shortening encoder consists of 3 steps:"
to
"The shortening encoder operationally includes 3 steps:"

Change:
"Puncturing encoder consists of 2 steps:"
to
"The puncturing encoder operationally includes 2 steps:"

Change the title of 102.1.4.2 from …" encoder" to "… encoders"

Cl **102** *SC* **102.1.4.2** *P* **244** *L* **14** # i-258

Hajduczenia, Marek Bright House Network

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

The purpose of 102.1.4.2 is unclear.

SuggestedRemedy

Move text from lines 15 - 22 to 102.1.4.2.1
Move text from lines 24 - 28 to 102.1.4.2.2
Remove 102.1.4.2
Promote 102.1.4.2.1 and 102.1.4.2.2 one level up

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Leave text in place but combine with 102.1.4. Promote 102.1.4.2.1 and 102.1.4.2.2

Cl **102** *SC* **102.1.4.2.1** *P* **244** *L* **35** # i-259

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

"The puncturing operation is as follows (also see Figure 102-6):" - it seems that a list should follow, but the text in lines 37 onwards is not formwatted as a list.

SuggestedRemedy

Consider either formatting text in lines 37 onwards as a bulleted list. Alternatively, merge this text together to build introduction descrition for LDPC (384, 288) puncturing encoder, to have text as follows:

The mother code is defined in 102.1.4.1.1. Denote the information bits sent to the mother code encoder by (a0, ... , a287), and let the encoding output be (a0, ... , a287, b288, ... , b479), where (b288, ... , b479) are parity-check bits. The coordinates to be deleted by the puncturing step are:
- Period 1: 48 consecutive coordinates a48, ... , a95
- Period 2: 48 consecutive coordinates b384, ... , b431
The puncturing operation is shown in Figure 102-6).

Similar changes need to be done in 102.1.4.2.2

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Reformat to Ll1,NumberedList:
Change "Period x:" to bulleted list with appropriate indent

Cl **102** *SC* **102.1.5** *P* **246** *L* **25** # i-260

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *DUT*

Wrong DUT - it says "The PHY shall scramble ...", while scrambler is likely in PHY Link block?

SuggestedRemedy

Fix the DUT for this requirement and update PICS.
Also, please align the structure of requirement to match 101.3.2.3, to include a requirement to produce the same result as serial implementation shown in Figure 102-XX, and also add initialization requirements (text right now has initialization as informative only)

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change "The PHY shall scramble …"
to "The CLT and CNU shall scramble …"
At line 32 change
"The PHY initializes the …" to
" The CLT shall initialize the …"
At line 34 change
"… the PHY initializes …" to
"… the CNU shall initialize …" to

Add PICS
PG7 | CLT PHY Link scrambler initialization | 102.1.5 | at the beginning of the first OFDM symbol following the PHY Link preamble | CLT: M | Yes [ ] No [ ] N/A [ ]
PG8 | CNU PHY Link scrambler initialization | 102.1.5 | at the beginning of an upstream PHY Link transmission | CNU: M | Yes [ ] No [ ] N/A [ ]

Cl **102** *SC* **102.1.5** *P* **246** *L* **37** # i-261

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

"The PHY does not scramble the PHY Link preamble" - this is important enough to be a requirememt

SuggestedRemedy

Convert to a requirement + add PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change:
"The PHY does not scramble …" to
"The PHY shall not scramble …"

Add PICS
PG9 | PHY Link preamble | 102.1.5 | at the is not scrambled | M | Yes [ ] No [ ]

Cl **102** *SC* **102.1.6** *P* **246** *L* **41** # i-262

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

Missing requirements for symbol map and constellation mapping:
- In the downstream direction the assigned modulation order is always 16-QAM
- The upstream PHY Link may use 16-QAM or a higher order

SuggestedRemedy

Convert both statements into requirements and add PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Line 42 change "is always" to "shall be"
Line 43 change "may use" to "shall be"

Add PICS
PG10 | DS PHY Link modulation | 102.1.6 | 16-QAM | M | Yes [ ] No [ ]
PG11 | US PHY Link modulation | 102.1.6 | 16-QAM or higher | M | Yes [ ] No [ ]

Cl **102** *SC* **102.1.8** *P* **247** *L* **14** # i-263

Hajduczenia, Marek Bright House Network

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

Incorrect multiplication operator: *. Use "x" instead

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.1.8** *P* **247** *L* **14** # i-264

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

Consider rewriting the if statement using C pseudo code instead

SuggestedRemedy

Use:

If (RegAdd >= 1.1900 AND RegAdd <= 1.1999) then
<tab> Index = (RegAdd - 1.1900) x 1000
else If (RegAdd <= 12.0000) then
<tab> Index = (RegAdd - 12.0000) x 1000 + 1000
else
Index = 500 + XXX

Where XXX needs to be defined in Table 102-3

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change:
" Then" to ", then" in two places in the note also add periods to make each line a complete sentence.
Change
"Clause 45 indexes" to "Clause 45, indexes"

Cl **102** *SC* **102.1.8** *P* **247** *L* **18** # i-265

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

Table 102-3 and Table 101-1 do not match and they have the same title: MDIO register to PHY variable mapping - I would expect them to match in terms of content

SuggestedRemedy

Consider merging both tables into a sigle one, located preferably in Clause 102, where PHY Link is defined.

Response *Response Status* **W**

REJECT.
Each table only contains information on the variables used in that Clause. Note that this follows precedent set in Clause 84, 86, 87 …
See

Table 84–2—MDIO/PMD control variable mapping
Table 86–3—MDIO/PMD control variable mapping
Table 87–2—MDIO/PMD control variable mapping
and others

Cl **102** *SC* **102.2.1.1** *P* **250** *L* **45** # i-266

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R** *+REV+*

There is terminology confusion here: first we say Phy Link is allocated 400 Khz and then we say it is allowed 24 MHz of contiguous OFDM channel. I am not sure how both of these requirements can be met at the same time.

SuggestedRemedy

Change

During network setup the downstream PHY Link shall be allocated 400 kHz of spectrum. The allocated spectrum for the downstream PHY Link shall reside anywhere within a 24 MHz contiguous OFDM channel spectrum (i.e., 24 MHz with no internal exclusion bands) and have at least 3 MHz of contiguous spectrum above and below it for a total band of 6 MHz.

to

During network setup the downstream PHY Link is allocated 400 kHz of spectrum anywhere within a 24 MHz contiguous OFDM channel spectrum (i.e., 24 MHz with no internal exclusion bands) and have at least 3 MHz of contiguous spectrum above and below it for a total band of 6 MHz.

Remove existing PICS. Remove d1,d2,d3,d4 from Figure 102-8 unless they are needed somewhere (I could not locate any references to these in text today)
Add a requirement in 102.2.11 saying: The placement of the PHY Link within the contiguous OFDM channel shall be per Figure 102-8. Add a new PICS.

Response *Response Status* **W**

REJECT.
The text reads: "During network setup the downstream PHY Link shall be allocated 400 kHz of spectrum. The allocated spectrum for the downstream PHY Link shall reside anywhere within a 24 MHz contiguous OFDM channel spectrum (i.e., 24 MHz with no internal exclusion bands) and have at least 3 MHz of contiguous spectrum above and below it for a total band of 6 MHz."

Note that the "allocated 400 kHz" is not the same as "24 MHz contiguous OFDM channel spectrum".

Cl **102** *SC* **102.2.1.2** *P* **251** *L* **34** # i-267

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

This should be a requirement - this is the only subcarrier for downstream.

SuggestedRemedy

Convert into requirement + add PICS
There is no other requirement right now covering the modulation for downstream PHY Link

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See resolution to i-262 copied below (ref'd to pg 246)

Line 42 change "is always" to "shall be"
Line 43 change "may use" to "shall be"

Add PICS
PG10 | DS PHY Link modulation | 102.1.6 | 16-QAM | M | Yes [ ] No [ ]
PG11 | US PHY Link modulation | 102.1.6 | 16-QAM or higher | M | Yes [ ] No [ ]

Cl **102** *SC* **102.2.3** *P* **254** *L* **42** # i-268

Hajduczenia, Marek Bright House Network

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

Wrong font for heading

SuggestedRemedy

Please reapply heading style to 102.2.3

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.2.3** *P* **254** *L* **54** # i-269

Hajduczenia, Marek Bright House Network

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

"CRC(32)" ???

SuggestedRemedy

Change to "CRC32"
There are multiple instances in Clause 102
There are also instances of "CRC-32" and "CRC 32", which should be also converted to "CRC32" for consistency

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.2.3** *P* **254** *L* **52** # i-270
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

"CLTs shall use the appropriate message Type fields listed in Table 102-6 in each message block" - seems like it should be a requirement for both CLT and CNU (they need to understand these on both ends)

SuggestedRemedy

Change to "The CLT and CNU PHY link shall support message Type field values per Table 102-6."
Update PICS

Response *Response Status* **W**

REJECT.
See 102.3.2 Upstream frame

Cl **102** *SC* **102.2.3.1** *P* **255** *L* **24** # i-271
Hajduczenia, Marek Bright House Network

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

RD_IF should be itialicised

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.2.3.1.1** *P* **255** *L* **30** # i-272
Hajduczenia, Marek Bright House Network

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

Comma not needed in "inform a CNU, to"

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.2.3.1.1** *P* **255** *L* **33** # i-273
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *+REV+*

This just reads wrong: "The CLT shall ensure that the inactive profile in all CNUs is identical prior to making it the active profile."

SuggestedRemedy

Change to "The CLT shall set an identical inactive profile in all active CNU prior to its activation."
Update PICS

Response *Response Status* **W**

ACCEPT.

Cl **102** *SC* **102.2.3.1.1** *P* **255** *L* **34** # i-274
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

Very circular descriotion: "The CLT updates the unused profile then, using the PHY Configuration ID field, switches the CNU to the updated profile. Once the CLT begins the switchover, as indicated by Configuration ID field values 0b01 or 0b10 it shall complete the switchover. During a switchover the value of the Configuration ID field is either incremented or decremented by one in each successive frame; thus a switchover takes three PHY Link frame times."

SuggestedRemedy

Change to "The CLT updates the unused profile on connected CNUs by setting the PHY Configuration ID field to one of two values: 0b01 or 0b10. The CNU switches the target profile, incrementing or decrementing the PHY Configuration ID field value by one in each successive PHY Link frame. The profile switchover takes three PHY Link frame times."
Update PICS

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
The suggested remedy is incorrect.
Change:
"frame; thus a switchover takes three PHY Link frame times." to
"frame. The switchover is completed and the CNU activates the new profile when the Configuration ID field reaches a value of 0b00 or 0b11; thus a switchover takes three PHY Link frame times."

Cl **102** *SC* **102.2.3.1.2** *P* **256** *L* **20** # i-275

Hajduczenia, Marek Bright House Network

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

C_ID is not defined. I assume it is "Configuration ID", but it is not shown anywhere

SuggestedRemedy

Add a note to figure 102-11 explaining what C_ID is

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Add "C_ID = Configuration ID"

Cl **102** *SC* **102.2.3.1.2** *P* **256** *L* **31** # i-276

Hajduczenia, Marek Bright House Network

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

"The CLT shall ensure that all CNUs have sufficient time (as determined by the variable PhyLnkRspTm) to respond to the downstream PHY Link frame." - meaningless requirements, without specifying how much of time is needed.

SuggestedRemedy

Convert into informative text instead and remove any associated PICS

Response *Response Status* **C**

REJECT.
The specific time is dependent on capabilities of the networked devices and is specified by PhyLnkRspTm. This is similar to a mechanism used in EPON to allow for devices with various laser on/off times.

Cl **102** *SC* **102.2.3.1.3** *P* **256** *L* **42** # i-277

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **R**

What happened with values 0x8000 - 0xFFFF?

SuggestedRemedy

Add them to Table 102-8 and mark them as reserved (ignored on reception).

Response *Response Status* **W**

REJECT.
PHY Link DA & SA are 15 bit values.

Cl **102** *SC* **102.2.3.1.4** *P* **257** *L* **3** # i-278

Hajduczenia, Marek Bright House Network

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

More compound adjectives: "32 bit field"

SuggestedRemedy

Change to "32-bit field"

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.2.3.1.4** *P* **257** *L* **6** # i-279

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

"its" versus "it's" -these are not the same

SuggestedRemedy

There are 7 instances of "it's in the draft and all of them wrong !

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Per comment. Also check for its'

Cl **102** *SC* **102.2.3.2** *P* **258** *L* **2** # i-280

Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A**

"within 2.5 ms" - what is the reference point for these 2.5 ms?

SuggestedRemedy

Please add information for reference point for this 2.5ms period: is it since data is received on PHY, processed, etc.?
The same applies to 102.2.5 "The CNU shall decode and be capable of acting on EPoC message block instructions included in a downstream PHY Link frame within 4.8 ms."

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Add "after reception"

Cl **102** *SC* **102.2.3.2.1** *P* **258** *L* **15** # i-281

Hajduczenia, Marek Bright House Network

Comment Type **ER** *Comment Status* **A**

What is "0x00b" ???? Is it hex or binary? It is also not clear what 1b, 15b, 2b etc. are. If these are intended to be bit sizes for individual fields, show the size as "1 bit" in the line below the field name

SuggestedRemedy

Per comment
The same applies to Figure 102-14/15

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change
"PrbType = 0x00b" to
"PrbType = binary value "00""
Add note "the notation "(#b)" indicates the number of bits in the field"

Make similar changes to Fig 102-14 & 15

Cl **102** *SC* **102.2.3.4** *P* **260** *L* **18** # i-282

Hajduczenia, Marek Bright House Network

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

EMBcnt and EMBerr variables seem to be using smaller font than normal T,Text

SuggestedRemedy

Please apply proper style

Response *Response Status* **C**

REJECT.
The font is correct in the source file.

Cl **102** *SC* **102.2.4** *P* **260** *L* **36** # i-283

Hajduczenia, Marek Bright House Network

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

binary size of the FEC code follows code name, usually

SuggestedRemedy

Change
a (384,288) binary punctured LDPC code
to
a binary punctured LDPC (384,288) code

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.2.7.5** *P* **265** *L* **12** # i-284

Hajduczenia, Marek Bright House Network

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

What is this statement intended to mean: "EPFHtp | DS_CID | US_CID | RF_ID | 0b0 | PhyDA| LocalTS" - the "|" operator is not defined right now

SuggestedRemedy

If it is supposed to be a binary summation, then use "|" with no surrounding spaces

Response *Response Status* **C**

REJECT.
See Table 21–1. (Catenate operator)

Cl **1** *SC* **1.4.144b** *P* **28** *L* **33** # i-285

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **R** *+REV+ Sed*

the term is used in it's own definition. This is not allowed in an IEEE standard.

SuggestedRemedy

Delete second sentence

Response *Response Status* **W**

REJECT.
The definition is modeled directly after a similar definition for the OLT in the 2015 STD. We would like to maintain consistency with previous PON related definitions.
"1.4.302 Optical Line Terminal (OLT): The network-end DTE for an optical access network. The OLT is the master entity in a P2MP network with regard to the MPCP protocol."

If the commenter feels strongly about this issue they are invited to submit a maintence request.

Cl **1** *SC* **1.4.144c** *P* **28** *L* **37** # i-286

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **R** *+REV+*

Term is used in the definition. This is not allowed in an IEEE Standard (see IEEE Standard Style Manual)

SuggestedRemedy

Delete everything after first period.

Response *Response Status* **W**

REJECT.
The definition is modeled directly after a similar definition for the ONU in the 2015 STD. We would like to maintain consistency with previous PON related definitions.
"1.4.304 Optical Network Unit (ONU): The subscriber-end DTE to an optical access network. An ONU is a slave entity in a P2MP network with regard to the MPCP protocol."

If the commenter feels strongly about this issue they are invited to submit a maintence request.

Cl **1** *SC* **1.4.170a** *P* **28** *L* **42** # i-287

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+*

"The k redundant CP samples attached at the beginning of the symbol are identical to the last k samples of the same symbol prior to applying windowing." is a normative characteristic of the cyclic prefix, and does not belong in the definition of the term cyclic prefix.

SuggestedRemedy

Remove from definition, and move to appropriate normative clause.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Remove the phrase. The CP description in Cl 101 is sufficient as is.

Cl **1** *SC* **1.4.277a** *P* **28** *L* **47** # i-288

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+*

"In effect, MER is a measure of how spread out the symbol points in a constellation are. More specifically, MER is a measure of the cluster variance that exists in a transmitted or received waveform at the output of an ideal receive matched filter. MER includes the effects of all discrete spurious, noise, carrier leakage, clock lines, synthesizer products, linear and nonlinear distortions, other undesired transmitter and receiver products, ingress, and similar in-channel impairments." may well be useful to know, but is WAY more than is appropriate in the definition of the term. This appears a mix of normative and informative text, which is better suited to a normative clause(s) and general informative overview, respectively.

SuggestedRemedy

Remove extra informative and normative text from the definition and move it to an appropriate place in the standard.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Remove the referenced text. Normative description in Cl 100 is sufficient as is.

Cl **1** *SC* **1.4.306a** *P* **29** *L* **10** # i-289

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+ OFDM def*

"Thus individual QAM subcarriers carry a small percentage of the total payload at a low data rate." is an interesting and informative bit of additional information, but not part of the definition of the term. This text belongs in an overview discussion of OFDM.

SuggestedRemedy

Remove the interesting and informative extra text from the definition and move to an overview clause where it will be both interesting have useful context for the user of the standard.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Strike the sentence.

Cl **1** *SC* **1.4.345b** *P* **29** *L* **27** # i-290

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+*

This text is explaining a notation for describing normative requirement (format) of certain MDIO registers, It is not a "term" and so this definition does not belong in this clause. A better place might be clause 45. Or in a clause in the standard titled "notation conventions".

SuggestedRemedy

Delete the definition. Add text in clause 45 to explain the notation as used in defining MDIO registers.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Remove current definition 1.4.345b and 1.4.424a and adjust editing instructions as appropriate.
Add 1.2.7 as follows:

Insert the following notation after subclause 1.2.6 Accuracy and resolution of numerical quantities.

1.2.7 Qm.n number format
The Qm.n number format is a fixed-point number format where the number of fractional bits is specified by n and optionally the number of integer bits is specified by m. For example, a Q14 number has 14 fractional bits; a Q2.14 number has 2 integer bits and 14 fractional bits. Preceding the "Q" with a "U"
indicates an unsigned number.

Cl **100** *SC* **100.3.5.2** *P* **98** *L* **49** # i-291

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+*

What is "lowest power"? Without defining what this means, the requirement is unverifiable and thus invalid. Is this meant to be the lowest power supported by an implementation? I do not find a specific level or other clue as to what is meant by "lowest power" other than that it may, or may not, be up to 9dB bellow P1.6Min.

SuggestedRemedy

Restate requirement clearly and in a way which may be verified.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED

Modify the text to read:

"During PHY Discovery ranging a CNU shall initiate communications starting from lowest power, which is set by the CLT using PdRespInitPwr (see Section 102.4.1.8)."

Update PICS as needed.

Cl **100** *SC* **100.3.5.6** *P* **107** *L* **48** # i-292

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+*

"shall" in table is unnecessary and contradicts text. The sentence "The CNU shall output an RF Modulated signal with characteristics delineated in Table 100-11" makes the table "requirements"; "shall be capable of" is not the same as "shall output" so this is contradicting the normative text above; "CNU shall be capable of transmitting a total average output
power." is not an compete (sensible) requirement, but for example "be capable of transmitting a total average output power of 65 dBmV" would be both complete and completely sensible. It would appear either this text is misplaced, or otherwise mangled in editing?

SuggestedRemedy

Clarify the requirement. Suggest that if there is in fact a power range intended, specify the minimum and maximum power that shall be used at any given time.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See response to i-71 copied below
Change "Level CNU shall be capable of transmitting a total average output power."
To: "Total average transmit output power"

Update PICS as needed.

Cl **100** *SC* **100.5.3** *P* **120** *L* **23** # i-293

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+*

"Normative specifications in this clause shall be met by a system integrating 10GPASS-XR over the life of the product while the product operates within the manufacturer's range of environmental, power, and other
specifications."
How would one verify that this requirement has been met by a conforming product? It would require testing the entire life of the product, which is only possible if the product is designed to end it's life at the completion of conformance testing. If that is the intention clearly state the self-destruct requirement (although this seems to limit severely the utility of the product).

SuggestedRemedy

(1) delete the paragraph,
or
(2) change "shall" to "should be designed to"

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Option 2 as per remedy

Cl **100** *SC* **100.7** *P* **121** *L* **5** # i-294

Rolfe, Benjamin Blind Creek Associate

Comment Type **GR** *Comment Status* **R** *+REV+ Sed*

"The supplier of a protocol implementation that is claimed to conform to Clause 100, Physical Medium
Dependent (PMD) sublayer and medium for passive optical networks type 10GPASS-XR shall complete the
following protocol implementation conformance statement (PICS) proforma." is stating a required behavior of the USER of the standard (implementer), which is out of scope of this standard.

SuggestedRemedy

Change "shall" to "will".

Response *Response Status* **W**

REJECT.
The phrasing of this paragraph is consistent with all other PICS clauses in STD 802.3 2015 and the working group template.
The commenter is invited to submit a maintenance request against the standard if this is considered a blocking issue.

Cl **101** *SC* **101.6.1** *P* **231** *L* **7** # i-295

Rolfe, Benjamin Blind Creek Associate

Comment Type **GR** *Comment Status* **R** *+REV+*

The statement "The supplier of a protocol implementation that is claimed to conform to Clause 101, Reconciliation Sublayer, Physical Coding Sublayer, and Physical Media Attachment for EPoC, shall complete the following protocol implementation conformance statement (PICS) proforma." is specifying a required behavior of the user (implementer) of a standard, which is out of scope of this standard.

SuggestedRemedy

Change "shall" to "will". Or delete the paragraph. Or change the scope of the standard to include human behavior.

Response *Response Status* **W**

REJECT.
The phrasing of this paragraph is consistent with all other PICS clauses in STD 802.3 2015 and the working group template.
The commenter is invited to submit a maintenance request against the standard if this is considered a blocking issue.

Cl **102** *SC* **102.1.1** *P* **241** *L* **3** # i-296

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A**

"The PHY Link frame shall be fixed;" is missing the word "length" and the ";" should be a ":"? (assuming you meant "not variable" rather than "not broken").

SuggestedRemedy

change to "The PHY Link frame length shall be fixed:"

Response *Response Status* **W**

ACCEPT.

Cl **102** *SC* **102.2.3.1.3** *P* **256** *L* **39** # i-297

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A**

"The CLT shall only transmit the valid values of the PHY DA as given in Table 102-8." contradicts normative statements elsewhere in the draft which specify other things transmitted by the CLT. I might guess that what is intended is to specify that the PHY DA field of transmitted frames shall contain a valid value from table 102-8.

SuggestedRemedy

Change to "The PHY DA field shall contain one of the valid values given in table 102-2"

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change to "The CLT shall only transmit the
valid values of the PHY DA field as given in Table 102–8."

Cl **102** *SC* **102.5.1** *P* **291** *L* **5** # i-298

Rolfe, Benjamin Blind Creek Associate

Comment Type **GR** *Comment Status* **R** *+REV+*

"The supplier of a protocol implementation that is claimed to conform to Clause 102, EPoC PHY Link, shall complete the following protocol implementation conformance statement (PICS) proforma." is specifying a required behavior or the implementer of the standard (a human being), which is out of scope of this standard (which defines behaviors of conforming devices).

SuggestedRemedy

Change "shall" to "will"

Response *Response Status* **W**

REJECT.
The phrasing of this paragraph is consistent with all other PICS clauses in STD 802.3 2015 and the working group template. The commenter is invited to submit a maintenance request against the standard if this is considered a blocking issue.

Cl **103** *SC* **103.4.1** *P* **341** *L* **6** # i-299

Rolfe, Benjamin Blind Creek Associate

Comment Type **GR** *Comment Status* **R** *+REV+*

"The supplier of a protocol implementation that is claimed to conform to Clause 103, Multipoint MACControl for EPoC, shall complete the following protocol implementation conformance statement (PICS)proforma." is (again) specifying required behavior of a person or entity who's behavior is out of scope of this standard (and thus out of scope of the project)

SuggestedRemedy

Withdraw the draft as the content exceeds the scope of the PAR.
or
change "shall" to "will".

Response *Response Status* **W**

REJECT.
The phrasing of this paragraph is consistent with all other PICS clauses in STD 802.3 2015 and the working group template. The commenter is invited to submit a maintenance request against the standard if this is considered a blocking issue.

Cl **100A** *SC* **100A.4.1** *P* **355** *L* **6** # i-300

Rolfe, Benjamin Blind Creek Associate

Comment Type **GR** *Comment Status* **R** *+REV+*

"The supplier of a protocol implementation that is claimed to conform to Annex 100A, EPoC OFDM channel model, shall complete the following protocol implementation conformance statement (PICS) proforma." specifies requirements outside the scope of this standard (e.g. behavior of the supplier). Either the draft exceeds the scope of the PAR, or we are stating a FACT, not a requirement (in the context of the standard). I prefer the second option ;-)

SuggestedRemedy

Change "shall" to "will"

Response *Response Status* **W**

REJECT.
The phrasing of this paragraph is consistent with all other PICS clauses in STD 802.3 2015 and the working group template.
The commenter is invited to submit a maintenance request against the standard if this is considered a blocking issue.

Cl **1** *SC* **1.4.306a** *P* **29** *L* **10** # i-301

Rolfe, Benjamin Blind Creek Associate

Comment Type **TR** *Comment Status* **A** *+REV+ OFDM def*

This definition contradicts the NORMATIVE definition of OFDM Channel used in for example Table 45-98a which states the OFDM Channel includes pilots, which are modulated using BPSK, and 101.4.3.4.3 where it states When a subcarrier is used to carry MAC data it uses the modulation type of QPSK or 2n-QAM. Thus "over a number of orthogonal QAM subcarriers." is incorrect.

SuggestedRemedy

Remove the definition from this clause.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Strike the word QAM from the definition.

Cl **100** *SC* **100.3.4.2** *P* **92** *L* **22** # i-302

Nakada, Juichi ADVANTEST

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

Table 100-3 CLT RF output requirements
p.92, line 22, "Phase noise up to of the subcarrier's center".
I think that numerical value is insufficient in this sentence.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See comment i-382.
Suggest remedy copied below:
"After +- symbol add "50 kHz""

Cl **103** *SC* **103.2.2.3** *P* **308** *L* **54** # i-303

Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **A** *remein_02*

Phrasing of variables used by reference should place emphesis on reference not defintion.

SuggestedRemedy

See changes to definition in 3bn_remein_02_0216.pdf for the following variable/counters/functions and constants: localTime, data_rx, data_tx, grantStart, IdleGapCount, initial_derating_delay, newRTT, m_sdu_rx, m_sdu_tx, m_sdu_ctl, OctetsRequired, opcode_rx, opcode_tx, packet_initiate_delay, RTT, stopTime, timestamp, timestampDrift, tqOffset, transmitAllowed, transmitEnable, transmitEnable, transmitPending, Opcode-specific function(opcode), select(), SelectFrame(), sizeof(sdu), transmissionPending(), grantEndTime, insideDiscoveryWindow, pendingGrants, registered, syncTime, discovery_window_size_timer, mpcp_timer, max_future_grant_time, min_processing_time, currentGrant, gate_timeout, grantList, maxDelay, nextGrant, nextStopTime, empty(list), InsertInOrder(sorted_list, inserted_element), IsBroadcast(grant), PeekHead(sorted_list), Random(r), RemoveHead(sorted_list), gntWinTmr, and gate_periodic_timer.

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.1.3** *P* **304** *L* **1** # i-304

Remein, Duane Futurewei Technologie

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

This section is essentially a duplicate of 77.1.4 and can be removed.

SuggestedRemedy

Replace the para with "See 77.1.4"

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.2.2** *P* **305** *L* **9** # i-305

Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **A** *EZ i-115*

Figure 103-4 is a duplicate of 77-6.

SuggestedRemedy

Replace the figure 103-4 with "See Figure 77-6 for a high level diagram of the multipoint transmission control service interfaces."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See accepted comment i-115 (suggested remedy copied below)

In other locations 802.3, there are cases where text was marked as applicable, with some listed changes. Here, change "The purpose and high level functionality of multipoint transmission control is similar to those described in 77.2.2 for EPON." to "The purpose and high level functionality of multipoint transmission control is similar to those described in 77.2.2 for EPON, including Figure 77-6 through Figure 77-9, where the term "ONU" is replaced with "CNU" and the term "OLT" is replaced with "CLT"."
Strike Figure 103-4 through Figure 103-7

Cl **103** *SC* **103.2.2** *P* **305** *L* **21** # i-306

Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **R** *EZ i-115*

Figure 103-5 is a duplicate of 77-7.

SuggestedRemedy

Replace the figure 103-5 with "See Figure 77-7 for a high level diagram of the control parser service interfaces."

Response *Response Status* **C**

REJECT.
See accepted ER comment i-115 by the same commenter which removed this figure

---

Cl **103** *SC* **103.2.2** *P* **306** *L* **1** # i-307

Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **R** *EZ i-115*

Figure 103-6 is a near duplicate of 77-8.

SuggestedRemedy

Replace the figure 103-6 with "See Figure 77-8 for a high level diagram of the CLT control multiplexer service interfaces (CLT operates the same as an OLT)."

Response *Response Status* **C**

REJECT.
See accepted ER comment i-115 by the same commenter which removed this figure

---

Cl **103** *SC* **103.2.2** *P* **306** *L* **1** # i-308

Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **R** *EZ i-115*

Figure 103-7 is a near duplicate of 77-9.

SuggestedRemedy

Replace the figure 103-7 with "See Figure 77-9 for a high level diagram of the CNU control multiplexer service interfaces (CNU operates the same as an ONU)."

Response *Response Status* **C**

REJECT.
See accepted ER comment i-115 by the same commenter which removed this figure

---

Cl **103** *SC* **103.2.2.5** *P* **312** *L* **13** # i-309

Remein, Duane Futurewei Technologie

Comment Type **TR** *Comment Status* **A**

The definition of counter packet_initiate_timerC refers back to Cl 64 but it is unique to EPoC and should be a standalone definition.
Also there are two instances of "packet_initiate_timer_done" (Fig 103-12 & 103-13) which are incorrect.

SuggestedRemedy

Change the definition to "This timer is used to delay frame transmission from MAC Control to avoid variable MAC delay while MAC enforces IPG after a previous frame. In addition, this timer increases interframe spacing just enough to accommodate the extra parity data to be added by the FEC encoder."
Change the two instances of "packet_initiate_timer_done" to "packet_initiate_timerC_done"

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.2.2.3** *P* **308** *L* **54** # i-310
Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **A** *remein_02*

Many cross references to Cl 64 can be changed to Cl 77 without creating a double reference.

SuggestedRemedy

See reference changes in 3bn_remein_02_0216.pdf.

Response *Response Status* **C**

ACCEPT.

Cl **103** *SC* **103.2.1** *P* **304** *L* **49** # i-311
Remein, Duane Futurewei Technologie

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

Verb tense incorrect

SuggestedRemedy

Change "is" to "are" so the sentence reads "The principles of Multipoint MAC Control are the same as those described in 77.2.1 for EPON." This change is included in 3bn_remein_02_0216.pdf.

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.2.1.1** *P* **84** *L* **13** # i-312
Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **D** *+REV+*

The definition of time_quantum is located in 64.2.2.1 not 77.2.2.1 (which references 64.2.2.1).

SuggestedRemedy

Change the reference from 77.2.2.1 to 64.2.2.1 so as to avoid a double reference.

Proposed Response *Response Status* **Z**

This comment was WITHDRAWN by the commenter.

Cl **101** *SC* **101.1.2** *P* **127** *L* **33** # i-313
Remein, Duane Futurewei Technologie

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

The definition of time_quantum is located in 64.2.2.1 not 77.2.2.1 (which references 64.2.2.1).

SuggestedRemedy

Change the reference from 77.2.2.1 to 64.2.2.1 so as to avoid a double reference.

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **1** *L* **30** # i-314
Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **A** *+REV+ Sed EZ*

Change "IEEE P802.3bn initial Sponsor ballot"

SuggestedRemedy

to "IEEE P802.3bn Sponsor ballot recirculation"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
"IEEE P802.3bn Sponsor ballot first recirculation"

Cl **45** *SC* **45.2.1.3** *P* **36** *L* **27** # i-315
Remein, Duane Futurewei Technologie

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

"1.1958 through 1.1959" should be "1.1958 and 1.1959"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.131** *P* **39** *L* **3** # i-316
Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **A** *Cl45 renum*

Error in Editing Instruction: "Insert 45.2.1.131 through 45.2.1.165" should be "Insert 45.2.1.131 through 45.2.1.167"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See AIP comment i-10 Response copied below

Coordinate with other clause 45 editors and change clause numbering as agreed, register numbering remains as is. Tables will be renumbered per comment i-371 (resolution copied below)

Editors to consult with WG Secretary and IEEE staff editors for preferred resolution.

Cl **45** *SC* **45.2.1.131.1** *P* **39** *L* **50** # i-317
Remein, Duane Futurewei Technologie

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

Missing word "variable" between "TimeSyncCapable defined"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.131.8** *P* **40** *L* **44** # i-318
Remein, Duane Futurewei Technologie

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

missing period after "102.2.7.3"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.132.2** *P* **41** *L* **31** # i-319
Remein, Duane Futurewei Technologie

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

Missing word "counter between "the DS_ChCnt"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.160** *P* **55** *L* **21** # i-320
Remein, Duane Futurewei Technologie

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

Missing word "variable" between "the PhyLinkRspTm"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.161.1** *P* **56** *L* **3** # i-321
Remein, Duane Futurewei Technologie

Comment Type **ER** *Comment Status* **A** *+REV+*

The text indicates a 2 bit value maps to 1 bit variable. Also an incorrect reference to 101.4.3.4.5.

SuggestedRemedy

Change
"These bits are a reflection of bit 1 of variable US_ModAbility defined in 101.4.3.4.5." to
"These bits are a reflection of the variable US_ModAbility defined in 101.4.4.4.4."

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.4.4** *P* **204** *L* **36** # i-322
Remein, Duane Futurewei Technologie

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

Definition indicates a 4-bit binary field but only 2 bits are defined.

SuggestedRemedy

Change "4-bit binary" to 2-bit binary"

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **45** *SC* **45.2.1.161.3** *P* **56** *L* **16** # i-323
Remein, Duane Futurewei Technologie

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

Incorrect reference to US_ModAbility

SuggestedRemedy

Change to DS_ModAbility. (ensure variable name is none-breaking (Esc-n-s)

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.163.1** *P* **57** *L* **16** # i-324
Remein, Duane Futurewei Technologie

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

Incorrect reference to 102.4.1.9.2.
Same issue for 45.2.1.163.2 line 22

SuggestedRemedy

Change to 102.4.1.8.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.166.1** *P* **59** *L* **20** # i-325
Remein, Duane Futurewei Technologie

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

"indicated" shold be "indicates"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.166.1** *P* **59** *L* **23** # i-326
Remein, Duane Futurewei Technologie

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

Incorrect ref to 100.4.3.
Same issue line 30.

SuggestedRemedy

Change to 100.4.3.1.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.167.1** *P* **60** *L* **4** # i-327
Remein, Duane Futurewei Technologie

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

Variable name ReportedPwr should be italics. Reference should be 100.3.5.3.1.

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **56** *SC* **56.1.2.1** *P* **69** *L* **53** # i-328
Remein, Duane Futurewei Technologie

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

ODN is already spelled out and doe not need to be done again here

SuggestedRemedy

Change "optical distribution network (ODN)" to "ODN" with underlineing.

Response *Response Status* **C**

ACCEPT.

Cl **56** *SC* **56.1.3** *P* **72** *L* **1** # i-329

Remein, Duane Futurewei Technologie

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

The editing instruction should refer to Table 56-1 not 56-2.

SuggestedRemedy

Change "Insert two rows at the end of Table 56-2, ..." to "Insert two rows at the end of Table 56-1, ..."

Response *Response Status* **C**

ACCEPT.

Cl **67** *SC* **67.1** *P* **75** *L* **10** # i-330

Remein, Duane Futurewei Technologie

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

It appears that the basis for Table 67-1 was taken from 2012 edition and not the latest revision.

SuggestedRemedy

Change the editing instruction to read: "Insert two new rows at the end of Table 67-1 and two new footnotes labeled d and e as shown below (unchanged rows and footnotes not shown)".
Remove the unchanged rows and footnotes from the table.

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.2.1.1** *P* **84** *L* **13** # i-331

Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **D** *+REV+*

77.2.2.1 only points to 64.2.2.1. rather than create a double reference for the reader point directly to 64.2.2.1. Could also point to 103.2.2.1 for a "sectional local" reference.

SuggestedRemedy

Change 77.2.2.1 to 64.2.2.1.

Proposed Response *Response Status* **Z**

This comment was WITHDRAWN by the commenter.

Cl **100** *SC* **100.7.3.1** *P* **123** *L* **19** # i-332

Remein, Duane Futurewei Technologie

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

Everywhere else in the draft "I/Q" is "I / Q" (with spaces).

SuggestedRemedy

Change "I/Q" to "I / Q" in 2 places (line 19 & 22).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See accepted comment i-18 which changes all instances to "I/Q"

Cl **00** *SC* **100.2.4** *P* **85** *L* **20** # i-333

Remein, Duane Futurewei Technologie

Comment Type **TR** *Comment Status* **A**

This statement is not strictly true:
"CLT PMD data transmission is always enabled."
When PD_Enable is FALSE the CLT is not allowed to transmit onto the media. This prevents a partially configured CLT from interferiing with existing services (see Figure 102-16)
Task Force may wish to adjust the wording in 102.2.7.3 also (see comment against pg 152 Cl 101.3.2.5.6 Line 27)

SuggestedRemedy

Change to read: "CLT PMD data transmission is always enabled except when PD_Enable is FALSE (see 102.2.7.3)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Per Suggested Remedy and

In 102.2.7.3 Variables pg 263 line 45 change
"It is set to TRUE after all elements required for PHY Discovery listed in Table 102-13 have been written by the CLT." to
"In the CNU it is set to TRUE after all elements required for PHY Discovery listed in Table 102-13 have been written by the CLT. In the CLT this variable, when set to FALSE, prevents transmissions from the CLT until it is fully configured and when TRUE permits transmissions."

Add PD_Enable to Table 100-1

Add the following as the new last paragraph in 100.3.4.6 CLT Transmitter Output Requirements:

"The CLT shall disable transmitter output when <ital>PD_Enable</ital> is equal to FALSE and continue in normal transmitter operation when <ital>PD_Enable</ital> is equal to TRUE."

Add the following as the new last paragraph in 100.3.5.7 CNU RF power amplifier requirements:

"The CNU shall disable transmitter output when <ital>PD_Enable</ital is equal to FALSE and continue in normal transmitter operation when <ital>PD_Enable</ital> is equal to TRUE. This requirement has precedence over the requirements in 100.3.5.7."

Update PICS as needed.

Cl **100** *SC* **100.3.2.1** *P* **88** *L* **6** # i-334

Remein, Duane Futurewei Technologie

Comment Type **TR** *Comment Status* **A** *+REV+*

This statement disagree with the definition of in 100.3.2.3
"... sets DS_RateMatchFail to "1" indicating mismatch, otherwise "0"."
Same issue for US_RateMatchFail in 100.3.2.2

SuggestedRemedy

Change to read "... sets DS_RateMatchFail to TRUE indicating mismatch, otherwise it is set to FALSE." and "... sets US_RateMatchFail to TRUE indicating mismatch, otherwise it is set to FALSE."

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.3** *P* **88** *L* **37** # i-335

Remein, Duane Futurewei Technologie

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

Spelling "labelled"

SuggestedRemedy

"labeled"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.4.1** *P* **89** *L* **26** # i-336

Remein, Duane Futurewei Technologie

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

The "N" in "Neq" is not italicised: "The number of equivalent 6 MHz channels, Neq, is ..."

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
The "N" in "Neq" should italicised.

Cl **100** *SC* **100.3.5.2** *P* **98** *L* **24** # i-337

Remein, Duane Futurewei Technologie

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

"P1.6" should be italicised. Same issue:
pg 98 ln 27 "Pmax"
pg 98 ln 52 "P1.6t"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.4.2** *P* **102** *L* **22** # i-338

Remein, Duane Futurewei Technologie

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

In Eq 100-16 the term "Under-grant Hold #Users" appears as "Under-grant Hold # Users" with a space between "#" and "Users"

SuggestedRemedy

remove the excess space.

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.4.2** *P* **102** *L* **32** # i-339

Remein, Duane Futurewei Technologie

Comment Type **T** *Comment Status* **A** *+EX+*

The term "Under-grant Hold Number of Users" in Eq 100-17 is undefined.

SuggestedRemedy

Define the term (could this be "Under-grant Hold #Users"?)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change "Under-grant Hold Number of Users" to "Under-grant Hold #Users"

Cl **100** *SC* **100.3.5.4.3** *P* **104** *L* **3** # i-340

Remein, Duane Futurewei Technologie

Comment Type **T** *Comment Status* **A** *+EX+*

It is not clear what "Modulated Subcarriers" refers to here and on lines 10 and 18. Is this the bandwidth of the modulated carriers (presumably or the units don't work)? The number of the modulated carriers (in which case you should use NS_Max as in Eq 100-11) mentioned earlier in the sentence or something else?
Also on line 10 there is a spurious emission of the word "The".

SuggestedRemedy

Clarify what is meant here and on lines 10 & 18 (possible using "(NS_Max X 0.05)" <subscript>S_Max). Use Italics as appropriate and remove the spurious "The" on line 10.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
1)Change Page 104, Line 1, "with the number of Modulated Subcarriers" to "with the Grant Spectrum".
2)Change, page 104, line 3, in the denominator of the equation, "Modulated Subcarriers" should be replaced with "Grant Spectrum", with the latter in italics as on page 102.
3)On page 104, line 10, the italicized words "Modulated Subcarriers" in the equation should be replaced with the italicized words "Grant Spectrum". Remove the "The"
4)On page 104, line 18, in the equation, the italicized words "Modulated Subcarriers" should be replaced with the italicized words "Grant Spectrum".
5)Page 100, line 1, "simultaneous" is misspelled.
6)Page 103, line 39, first sentence of Section 100.3.5.4.3, the use of "Table 100-8" should be "Table 100-9".
7)Page 103, line 48, second word of third sentence of paragraph, the use of "Table 100-8" should be "Table 100-9". (The use of "Table 100-8" later in the sentence, on line 49, is CORRECT and should not be changed.
8)Page 104, line 7, the use of "Table 100-8" should be "Table 100-9".
9)Page 104, line 8, the use of "Table 100-7" should be "Table 100-8".
10)Page 104, lines 12 through 16 are CORRECT, FYI.
11)Page 104, line 19, the use of "Table 100-7" should be "Table 100-8".
12)Page 104, line 21, the use of "Table 100-8" should be "Table 100-9".
13)Page 104, line 22, the use of "Table 100-7" should be "Table 100-8".
(Page 104, line 26, the use of "Table 100-9" is CORRECT, FYI.)

Cl **100** *SC* **100.3.5.4.4** *P* **105** *L* **37** # i-341
Remein, Duane Futurewei Technologie

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

To what voltage step does this refer "The CNU's voltage step shall be dissipated ..."? Presumably that at the MDI

SuggestedRemedy

Change to read "The CNU's voltage step at the MDI shall be dissipated ..."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change to read "The CNU's voltage step at the MDI (TP2) shall be dissipated ."

Cl **100** *SC* **100.3.5.4.4** *P* **105** *L* **40** # i-342
Remein, Duane Futurewei Technologie

Comment Type **TR** *Comment Status* **A** *+REV+*

What is a "backed-off transmit level"? This term is not used anywhere in the draft. "Back-off" is only used to refer to the Discovery back-off algorithm.

SuggestedRemedy

Clarify the term.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Replace the sentence at line 40 beginning with "At backed-off transmit level ." with "At transmit levels below +55 dBmV, the CNU's maximum change in voltage shall decrease by a factor of 2 for each 6 dB decrease of power level, from +55 dBmV down to a maximum change of 3.5 mV at 31 dBmV and below."

Update PICS as needed.

Cl **100** *SC* **100.3.5.5.1** *P* **106** *L* **14** # i-343
Remein, Duane Futurewei Technologie

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

Hopefully this is true "carrier phase offset, and timing will be adjusted" but we typically don't use the work "will"

SuggestedRemedy

Change to "carrier phase offset, and timing are adjusted"

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.5.1** *P* **106** *L* **37** # i-344
Remein, Duane Futurewei Technologie

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

"BURSTMER" should be italicised.

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
To be clear: <ital>BURST_{MER}</ital>

Cl **100** *SC* **100.3.5.7** *P* **108** *L* **19** # i-345
Remein, Duane Futurewei Technologie

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

Add missing period between "Figure 100-3" and "PMD_SIGNAL.request(ON)"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.7.1** *P* **112** *L* **27** # i-346
Remein, Duane Futurewei Technologie

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

Excessive white space in row starting "OFDM channel input level range" (probably due to para mark rather then linefeed).

SuggestedRemedy

Remove excess white space.

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.8** *P* **115** *L* **33** # i-347
Remein, Duane Futurewei Technologie

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

Unwarrented period between "subclause" and "Definitions"

SuggestedRemedy

Remove period, insert missing space, and change ""Definitions" to "definitions"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Line 33, remove "Definitions of parameters and measurement methods." It is a remenent left in error from prior subclause changes.

Cl **100** *SC* **100.3.8** *P* **115** *L* **32** # i-348
Remein, Duane Futurewei Technologie

Comment Type **TR** *Comment Status* **A** *+REV+ ensures*

The phrase "The CLT ensures that" implies a requirement on the CLT which cannot currently be met as there is no way to ensure the configuration meets these objectives (e.g., a "NACK" capability in MDIO). These implied requirements can easily be provided by a system which includes the PHY but should not be implied requirements of the PHY.
See comment against pg 193 line 39 Cl 101.4.3.11.

SuggestedRemedy

Remove the phrase at line 32.
Remove the phrase at line 38 and change "does not" to "cannot" so the sentence reads: "The encompassed spectrum of each 192 MHz downstream OFDM channel cannot exceed 190 MHz and does not exceed 3800 active subcarriers (see Table 100-3)."
Remove the phrase at line 42.
Remove the phrase at pg 116 line 24 and change "does not" to "cannot" 2x so the sentence reads: "the encompassed spectrum of the upstream OFDMA channel cannot exceed 190 MHz and cannot exceed 3800 active subcarriers (see Table 100-11)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
As per remedy. Editor to additionally check other "CLT ensures" in Clause 100 and make similar updates.

Cl **101** *SC* **101.4.3.11** *P* **193** *L* **39** # i-349
Remein, Duane Futurewei Technologie

Comment Type **TR** *Comment Status* **A** *+REV+ ensures*

The phrase "The CLT ensures that" implies a requirement on the CLT which cannot currently be met as there is no way to ensure the configuration meets these objectives (e.g., a "NACK" capability in MDIO). These implied requirements can easily be provided by a system which includes the PHY but should not be implied requirements of the PHY.
See comment against pg 115 line 32 Cl 100.3.8.

SuggestedRemedy

Remove the phrase, change "does not" to "cannot" and close parenthesis so the sentence reads: "The encompassed spectrum of a 192 MHz OFDM channel cannot exceed 190 MHz (3800 active subcarriers, see Table 100-3 and Table 100-11)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
At line 40 strike "The CLT ensures that" and change "does not exceed" to "is"

Cl **100** *SC* **100.4.1** *P* **116** *L* **45** # i-350
Remein, Duane Futurewei Technologie

Comment Type **T** *Comment Status* **A** *+EX+*

To which specified limit does this statement apply? "The specified limit applies"

SuggestedRemedy

Clarify statement.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change "The specified limit..." to "The specified limit of 73 dB below the operationally configured aggregate power (see <ital>CLT_TxMute</ital>)…".

Cl **100** *SC* **100.4.4** *P* **119** *L* **25** # i-351
Remein, Duane Futurewei Technologie

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

In "The OFDM test receiver need to be functionally" "need" should be "needs"

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.2.1** *P* **87** *L* **5** # i-352

Remein, Duane Futurewei Technologie

Comment Type **T** *Comment Status* **A** *+REV+*

"DS_Frame_Data_Load has the same value every frame, ..." My recollection is that this should be for every superframe not every frame.

SuggestedRemedy

Change "frame to superframe"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Editors to search for superframe and ensure that it is only used in reference to upstream. If referring to downstream change to "OFDM frame". Include "downstream" if not clear from context.

Cl **101** *SC* **101.1.1** *P* **127** *L* **19** # i-353

Remein, Duane Futurewei Technologie

Comment Type **E** *Comment Status* **A** *Notation(+=)*

The notations "- =", and "+ =" do not appear elsewhere in the draft and these descriptions could be removed.

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.1.4** *P* **132** *L* **22** # i-354

Remein, Duane Futurewei Technologie

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

In Fig 101-1 & 101-2 the "Clause 102" in the Phy Link block should be made a live link.

SuggestedRemedy

per comment.

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.3.2.5.6** *P* **152** *L* **27** # i-355

Remein, Duane Futurewei Technologie

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

This statement is not strictly true: "At the CLT, this variable is always set to TRUE." When PD_Enable is FALSE the CLT is not allowed to transmit onto the media. This prevents a partially configured CLT from interferiing with existing services (see Figure 10) Task Force may wish to adjust the wording in 100.2.4 also (see comment against pg 85 Cl 100.2.4 line 20)

SuggestedRemedy

Change to read: "At the CLT, this variable is always set to TRUE except when PD_Enable is FALSE (see 102.2.7.3)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
(also see comment i-333) which reads:
Per Suggested Remedy and

In 102.2.7.3 Variables pg 263 line 45 change
"It is set to TRUE after all elements required for PHY Discovery listed in Table 102-13 have been written by the CLT." to
"In the CNU it is set to TRUE after all elements required for PHY Discovery listed in Table 102-13 have been written by the CLT. In the CLT this variable, when set to FALSE, prevents transmissions from the CLT until it is fully configured and when TRUE permits transmissions."

Add PD_Enable to Table 100-1

Add the following as the new last paragraph in 100.3.4.6 CLT Transmitter Output Requirements:

"The CLT shall disable transmitter output when <ital>PD_Enable</ital> is equal to FALSE and continue in normal transmitter operation when <ital>PD_Enable</ital> is equal to TRUE."

Add the following as the new last paragraph in 100.3.5.7 CNU RF power amplifier requirements:

"The CNU shall disable transmitter output when <ital>PD_Enable</ital is equal to FALSE and continue in normal transmitter operation when <ital>PD_Enable</ital> is equal to TRUE. This requirement has precedence over the requirements in 100.3.5.7."

Update PICS as needed.

Cl **101** *SC* **101.4.3.3** *P* **173** *L* **41** # i-356
Remein, Duane Futurewei Technologie

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

"con-
nect-or"

SuggestedRemedy

Remove excess dash

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.3.6.4** *P* **180** *L* **8** # i-357
Remein, Duane Futurewei Technologie

Comment Type **TR** *Comment Status* **D** *+REV+*

This requirement cannot be enforced by the PHY as continuous pilots are provissioned.
"The CLT shall place continuous pilots ..."

SuggestedRemedy

Change statement to "The CLT should place continuous pilots ..."
Change statement for Step 8 (line 33) from
"The CLT transmits this continuous pilot" to
"The CLT shall transmit this continuous pilot"
Change PICS PI3 from
"Continuous Pilot placement/Meets the Equation (101-9) and the eight steps given in 101.4.3.6.4" to
""Continuous Pilot transmittion/ The CLT transmits the continuous pilot pattern and communicates their placement to CNUs"
Another alternative

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **101** *SC* **101.4.3.12** *P* **198** *L* **23** # i-358
Remein, Duane Futurewei Technologie

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

Missing space "0 1 0="

SuggestedRemedy

Change to "0 1 0 ="

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.3.5** *P* **202** *L* **12** # i-359
Remein, Duane Futurewei Technologie

Comment Type **T** *Comment Status* **A** *Rbsize/len*

Per the definiiton of RBsize it has values of TRUE & FALSE to the following statement cannot be correct "Value: 8 when RBsize is 0, 16 when RBsize is 1."

SuggestedRemedy

Change to "Value: 8 when RBsize is FALSE, 16 when RBsize is TRUE."

Response *Response Status* **C**

ACCEPT.

Cl **100** *SC* **100.3.5.7** *P* **108** *L* **21** # i-360
Remein, Duane Futurewei Technologie

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

Per the definiiton of RBsize it has values of TRUE & FALSE to the following statement cannot be correct "RBsize of 8 times or 16 times ..."

SuggestedRemedy

Change to RBlen(RBsize) of 8 times or 16 times ... "

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.4.2** *P* **204** *L* **22** # i-361
Remein, Duane Futurewei Technologie

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

While true this statement is slightly misleading as there is only one US channel"
There is at least one contiguous 10 MHz or greater band of active subcarriers in any single 192 MHz OFDM channel (see Table 100-11)."

SuggestedRemedy

Change to read "There is at least one contiguous 10 MHz or greater band of active subcarriers in the upstream 192 MHz OFDM channel (see Table 100-11)."

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.4.4.4.4** *P* **204** *L* **36** # i-362

Remein, Duane Futurewei Technologie

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

"TYPE: 4-bit binary" but only two are defined (Cl 45 only uses 2 bits also)

SuggestedRemedy

change to "TYPE: 2-bit binary"

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **13** *L* **13** # i-363

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

The amendment identification is not consistent. I believe it is correct here and most places in the draft, but not at P.12, L.3. Basically, we have drifted away from all references in the body of the standard being of the form IEEE Std 802.3bp-20xx, (with document title and headers using the project designation P802.3bp/D3.1). Though likely to be caught in publication preparation (especially since this note is instructed to be this way in current IEEE templates), we should strive for consistency in the body of the document so publication editors only search for one string that needs to be updated.

SuggestedRemedy

The note is something carried into the published standard and therefore should in that note be IEEE Std 802.3bp-201x. This may be something that IEEE editorial staff has changed recently. We should get clear guidance from staff (especially since they are currently revising the Style Manual). We also use the IEEE Std 802.3bp-201x in the PICS template and PICS in this draft.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Staff Editors would like to change all amendment references to "IEEE Std 802.3yy-20xx" where yy is the project designation and xx is the year completed. If a project is not completed when this draft is approved by SASB leave the "xx".

Editors verified this with staff editors and will make appropriate changes.

Cl **FM** *SC* **FM** *P* **13** *L* **13** # i-364

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

There are other approved or likely to be approved amendments to IEEE Std 802.3 that should be concurent or before P802.3bp approval.

SuggestedRemedy

P802.3bw is approved and designated Amendment 1, P802.32by has been designated Amendment 2, P802.3bq Amendment 3 and P802.3bp Amendment 4. br failed to meet conditions for RevCom submittal, by and bq also in Sponsor ballot. Either add an editor's note that other amendment descriptions will be added during publication preparation, or gather the amendment information (I think they are all in P802.3bv).

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See comment i-6 (Response copied below)

Per comment except [2] (WG Chair has not yet announced the order of this amendment)

Cl **FM** *SC* **FM** *P* **27** *L* **44** # i-365

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A** *+REV+ Sed*

I expect the WG Chair will designate an amendment number for this project.

SuggestedRemedy

This note should be updated for the known preceding amendments (bw, by, bq, bp) and any others that the draft assumes to precede this in approval order.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Add the following after confirming with Working Group Secretary:
IEEE Std 802.3bw-2015
IIEEE Std 802.3by-20xx
IEEE Std 802.3bq-20xx
IEEE Std 802.3bp-20xx

See i-363 (response copied below)
Staff Editors would like to change all amendment references to "IEEE Std 802.3yy-20xx" where yy is the project designation and xx is the year completed. If a project is not completed when this draft is approved by SASB leave the "xx".

Cl **1** *SC* **1.5** *P* **29** *L* **42** # i-366
Grow, Robert RMG Consulting

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

The acronyms list is alphanumeric, not only alphabetic.

SuggestedRemedy

Change alphabetical to alphanumerical.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.3.2.1.2** *P* **31** *L* **11** # i-367
Grow, Robert RMG Consulting

Comment Type **TR** *Comment Status* **A** *+REV+*

The SYNTAX list is not sorted. (It begins with other, unknown, none).

SuggestedRemedy

I assume the correct point is insert after 10GBASE-PRX. Same change for aPHYTypeList. For aMAUType, I believe the insert is after 10GBASE-T.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Change editing instruction by removing "in alphanumeric order" and insert "after 10/1GBASE-PRX" for aPhyType and aPhyTypeList as per comment for aMAUType.

Cl **45** *SC* **45.2.1.6** *P* **38** *L* **3** # i-368
Grow, Robert RMG Consulting

Comment Type **T** *Comment Status* **R** *+REV+ Sed*

P802.3bv has comments to put in the specifications for changes to the reserved rows.

SuggestedRemedy

This is possible when amendment order is known, but better is a suggestion the publication editors liked for an early project to individually list the code points as reserved (rather than in blocks), then subsequent amendments can simply indicate a change to the appropriate reserved rows. Encourage support for this approach.

Response *Response Status* **C**

REJECT.
This Editors instruction follows the recommendation of the WG Secretary. Should that recommendation change we will be happy to reconsider. However doing so without that recommendation may result in unnecessary churn in the draft. The commentor is invited to take this subject up with the WG Secretary.

Cl **45** *SC* **45.2.1.17aa** *P* **38** *L* **17** # i-369
Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A** *+REV+*

This editorial instruction is wrong. Clause 45 presents registers in assending number. The 2015 revision has 45.2.1.14 describing register 1.16. IEEE Std 802.3bw-2015 inserts 45.2.1.14a describing register 1.18. Register 1.17 belongs between these two register descriptions. (P802.3by inserts 45.2.1.14b and Table 45-17b descriging register 1.19). While the aa is arguably correct (what happens when we need to do the 27th insert and want to wrap to aa), the referenced document isn't correct.

SuggestedRemedy

I recommend using the letter c and giving up on the letter meaning anything about order. Correct instruction to read Insert 45.2.1.14c and Table 45-17c after 45.2.1.14 (before the 45.2.1.14a and Table 45-17a inserted by IEEE Std 802.3bw-2015) as follows:

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
See comment i-4 which changes "after" to "before" so correct order is maintaned.

Cl **45** *SC* **45.2.1.17aa** *P* **38** *L* **17** # i-370
Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *+REV+*

This lettering of inserts illustrates how use of letters is broken given sufficient inserts (in this case two). When discussing this problem with our publication editors in Atlanta, they admitted after consultation with the manager of the IEEE editorial department that what the style manual describes breaks pretty quickly. They agreed a long string of a's is not particularly good. They also did not jump at making letters simply a tag, with alphabetic order not meaning anything (my preferred solution).

SuggestedRemedy

A revision of the Style Manual is underway and this is on the list for better directions. We probably need to apply greater pressure for an answers to our insert issues. I would encourage use of the letter b in this case, not aa.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Editors to consult with WG Secretary and IEEE staff editors for preferred resolution.

Cl **45** *SC* **45.2.1.131** *P* **39** *L* **3** # i-371

Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **A** *+REV+ Cl45 renum*

IEEE Std 802.3bw has inserted 45.2.1.131 and 45.2.1.132. Because these 802.3bw subclauses are defining registers 1.2101 and 1.2102, the inserts, if we continue to follow using letters, needs to be 45.2.1.130a through 45.2.1.130ak. (The instruction is also in error on the range of inserts as there is a 45.2.1.167 in the draft. This highlights the problem with aa being ambiguous as used on P.39, L.17.

SuggestedRemedy

Option 1 -- an option that I did not present to our publication editors would be to use our amendment number rather than trying to enforce an alphabetical ordered meaning. In that case, these would be 45.2.1.130bn1 through 45.2.1.130bn31. Pretty ugly. Option 2 -- 45.2.1.130a through 45.2.1.130ak. Option 3 -- Personally, I'd prefer not using letters but specify renumbering (but I seem to be in the minority of vocal participants). Doing that the instruction would be: Insert 45.2.1.131 through 45.2.1.167 and sub-clauses after 45.2.1.130 (before the inserts at the same place by IEEE Std 802.3bw), and renumber as required:.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Editors to consult with WG Secretary and IEEE staff editors for preferred resolution.

Cl **00** *SC* **0** *P* **0** *L* **0** # i-372

Thompson, Geoffrey GraCaSI S.A.

Comment Type **G** *Comment Status* **R** *+REV+*

The addition of yet another flavor to the point-to-multipoint set of amendments to 802.3 reinforces my earlier position that the P2MP clauses deserve their own separate IEEE Standard.

SuggestedRemedy

Re-edit this clause to be a standalone standard (802.3.2 would be my choice). This standard would then provide the foundation during the next revision cycle to have all of the P2MP material added to it. The end result would be separate standards for CSMA/CD & P2P in one and P2MP in another.

Response *Response Status* **C**

REJECT.
The suggested Remedy is beyond the scope of the project PAR (see below).
5.2.b. Scope of the project: The project is to amend IEEE Std 802.3 to add physical layer specifications and management parameters for symmetric and/or asymmetric operation of up to 10 Gb/s on point-to-multipoint Radio Frequency (RF) distribution plants comprising either amplified or passive coaxial media. It also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as MultiPoint Control Protocol (MPCP) and Operation Administration and Management (OAM).

Cl **101** *SC* **101.4.4.5.2** *P* **209** *L* **4** # i-373

Remein, Duane Futurewei Technologie

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

"data carry Resource Element" ? Same issue in ln 5.

SuggestedRemedy

"data carrying Resource Element"

Response *Response Status* **C**

ACCEPT.

Cl **101** *SC* **101.5** *P* **228** *L* **32** # i-374

Carlson, Steven Marvell Semiconductor

Comment Type **TR** *Comment Status* **A** *TimeSync*

It appears that this section deals with measuring the time delay between the MDI and MII interfaces. This functionality is in 802.3-2015 as Clause 90.

SuggestedRemedy

Please use the standardize mechanisms in Clause 90.
1) Add mandatory support for Clause 90 (Ethernet support for time synchronization protocols) and the TSSI interface. Clause 90 is design to directly support 802.1AS applications and to perform all the necessary measurements and compensate for residency time within the PCS/PMA
2) Remove the existing calculations in 101.5.1/2/3 , as they are not needed with Clause 90 support.
3) Add support for registers: 1.1800 ... 1.1808 and 3.1800 ... 3.1808, which provides the measurement capability and Tx and Rx path delay measurements (min/max) which can then be reported between devices via the PHY link.
As support for 802.1AS across all 802.3 PHYs was the purpose of Clause 90, please use it instead of adding a stand-alone mechanism tothis PHY only.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
REVISED
Same as i-239 (response copied below).

Change the title of 101.5 from
"Applicability of IEEE Std 802.1AS, Clause 13 for EPoC time transport"
to
"Applicability of Clause 90- and IEEE Std 802.1AS, Clause 13 for EPoC time transport"

Pg 228 line 32? Change
"time delay asymmetries" to
"time delays described in Clause 90"

Remove DiffDelay, DiffDelayTol & TimeSyncCapable (101.5.3 & Table 101-1)

In 101.5.x
For CLT Replace DiffDelay with (Maximum PMA/PMD transmit path data delay - Maximum PMA/PMD receive path data delay + Minimum PMA/PMD transmit path data delay - Minimum PMA/PMD receive path data delay) /2

For CNU replace DiffDelay with (Maximum PMA/PMD receive path data delay - Maximum PMA/PMD transmit path data delay + Minimum PMA/PMD receive path data delay - Minimum PMA/PMD transmit path data delay) /2

Editor given lic. To use appropriate variable names and add to Table 101-1 (may want to indicate that these variablel are not communicated via PHY Link with a footnote).

Remove 101.5.4 Derivation of Methodology

Cl **FM** *SC* **FM** *P* **13** *L* **14** # i-375

Healey, Adam Broadcom Ltd.

Comment Type **E** *Comment Status* **A** *Sed i-6*

Complete the list of amendments based on the expected order of publication.

SuggestedRemedy

Per comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
See AIP comment i-6 (Response copied below)

Per comment except [2] (WG Chair has not yet announced the order of this ammendment)

Cl **1** *SC* **1.4.49a** *P* **28** *L* **18** # i-376

Healey, Adam Broadcom Ltd.

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

The parenthetical "(EPoC)" seems to be out of place here.

SuggestedRemedy

It is unclear what was intended here. Perhaps the definition should be changed to begin with "A collection of IEEE 802.3 EPON Protocol over Coax (EPoC) Physical Layer specifications for up to 10 Gb/s downstream and up to 1.6 Gb/s upstream point-to-multipoint link...". A simpler alternative would be to delete the parenthetical.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Change to begin with "A collection of IEEE 802.3 EPON Protocol over Coax (EPoC) Physical Layer specifications for up to 10 Gb/s downstream and up to 1.6 Gb/s upstream point-to-multipoint link…"

Cl **100** *SC* **100** *P* **79** *L* **1** # i-377

Healey, Adam Broadcom Ltd.

Comment Type **E** *Comment Status* **R** *+REV+ Sed*

The editing instruction "Insert new clauses and corresponding annexes as follows" isn't necessary.

SuggestedRemedy

Delete the instruction.

Response *Response Status* **C**

REJECT.
Staff editors insist that this editing instruction is required.

Cl **100** *SC* **100.2.1.1** *P* **84** *L* **10** # i-378

Healey, Adam Broadcom Ltd.

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

The "PMD Delay constraints" subclause should not be nested in the PMD service interface definition.

SuggestedRemedy

Suggest moving 100.2.1.1 to the same level in the heirarchy as the PMD service interface subclause (e.g., to 100.2.2 or 100.2.5).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Use 100.2.2

Cl **101** *SC* **101.4.3.8.3** *P* **184** *L* **12** # i-379

Healey, Adam Broadcom Ltd.

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

An equation is usually expressed as "variable = value". Equation 101-15 looks odds as it is simply a value.

SuggestedRemedy

The expression seems trivial enough to be included in-line with the previous paragraph and Equation 101-15 seems unnecessary. Altneratively, modify the equation to include the variable that is being assigned a value.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
The expression was in-line as suggested in the comment in D2.2 but was moved to an equation as the superscripts were running into the line above.
Formalize the equation as "QAM order = "

Cl **102** *SC* **102.2.3.1.4** *P* **257** *L* **4** # i-380

Lin, Ru Shanghai Luster Terab

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

The word "ODFMA" is incorrect.

SuggestedRemedy

It should be corrected as "OFDMA"

Response *Response Status* **C**

ACCEPT.

Cl **102** *SC* **102.4.1.9.7** *P* **280** *L* **1** # i-381

Lin, Ru Shanghai Luster Terab

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

The subclause number is incorrect.

SuggestedRemedy

It should be corrected as "102.4.1.9.5". Below the title State Diagram, add one sentence as "The CNU PHY Discovery Response transmission control shall conform to the state diagram shown in Figure 102-24."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Changed to technical by Editors due to added requirement.
Per comment.
Add PICS:
PD5 | CNU Discover Response | 102.4.1.9.5 | Per Figure 102-24 | M: CNU | Yes [ ] No [ ] NA [ ]

Cl **100** *SC* **100.3.4.2** *P* **92** *L* **21** # i-382

Remein, Duane Futurewei Technologie

Comment Type **GR** *Comment Status* **A**

In note c for Table 100-3 there is this statement: "Phase noise up to +- of the subcarrier's center frequencies is excluded from inband specification". This reads a bit odd.

SuggestedRemedy

After +- symbol add "50 kHz"

Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **0** *P* *L* # i-383

Stanton, Penny

Comment Type **E** *Comment Status* **A** *+REV+*

This draft meets all editorial requirements.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
REVISED
Thank you!