Cl **1** *SC* **1.4** *P* **20** *L* **14** # 137

Hajduczenia, Marek Charter Communicatio

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

Missing definition of EPON (as an architecture, to match EPON definitions we already have in Clause 1 in base standard), where we do not specify really ONU, but EPON

SuggestedRemedy

Rename all existing definitions of "ONU" in 1.4 with "EPON", e.g., 25/10G-ONU becomes 25/10G-EPON
Replace in all existing definitions of "ONU", "An EPON ONU" with "An EPON architecture"

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4** *P* **20** *L* **14** # 138

Hajduczenia, Marek Charter Communicatio

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

Missing definition for all new PMDs (EPON speeds) we are adding

SuggestedRemedy

Add a new definition:
Clause 141 EPON: An EPON architecture operating at a number of different downstream and upstream speeds, i.e., 25G/10G, 25G/25G, 50G/10G, 50G/25G, or 50G/50G. This term collectively refers to 25/10G-EPON, 25/25G-EPON, 50/10G-EPON, 50/25G-EPON, and 50/50G-EPON architectures.
Replace all instances of 100G-EPON in Clause 141 with "Clause 141 EPON"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a new definition:
Nx25G-EPON: An EPON architecture operating at a number of different downstream and upstream speeds, i.e., 25G/10G, 25G/25G, 50G/10G, 50G/25G, or 50G/50G. This term collectively refers to 25/10G-EPON, 25/25G-EPON, 50/10G-EPON, 50/25G-EPON, and 50/50G-EPON architectures.
Replace all instances of 100G-EPON in Clause 141 with "Nx25G-EPON"

Cl **1** *SC* **1.4** *P* **20** *L* **25** # 136

Hajduczenia, Marek Charter Communicatio

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

Missing 50/10G-ONU combination

SuggestedRemedy

Insert a new definition of 50/10G-ONU (before 50/25G-ONU): An EPON ONU supporting the maximum sustained throughput of 50 Gb/s in downstream direction and 10 Gb/s in upstream direction (asymmetric rate).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert a new definition of "50/10G-EPON" (before existing definition of 50/25G-ONU): An EPON architecture supporting the maximum sustained throughput of 50 Gb/s in downstream direction and 10 Gb/s in upstream direction (asymmetric rate).

Cl **1** *SC* **1.4** *P* **20** *L* **36** # 152

Harstead, Ed Nokia

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G ONUs out of scope

SuggestedRemedy

Delete 1.4.7a, ,8a, ,9a, .10a (100G ONU definitions)

Response *Response Status* **C**

ACCEPT.

Changed E to T

See comment #134

Cl **1** *SC* **1.4** *P* **20** *L* **36** # 158

Brown, Alan ADTRAN, Inc.

Comment Type **T** *Comment Status* **A** *100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Delete Definitions 1.4.7a, 1.4.8a, 1.4.9a, and 1.4.10a.

Response *Response Status* **C**

ACCEPT.

Changed type from E to T

See comment #134

Cl **1** *SC* **1.4** *P* **20** *L* **36** # 134

Hajduczenia, Marek Charter Communicatio

Comment Type **T** *Comment Status* **A** *100G-EPON*

All 100G variants of the PMD need to be removed

SuggestedRemedy

Remove the following definitions: 100/25G-ONU, 100/50G-ONU, 100/100-ONU, 100G-ONU; from Table 2-1, remove three last lines covering 100G variations

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4** *P* **21** *L* **8** # 171

Kramer, Glen Broadcom

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

Previous definition of grant was clear in that a grant resulted in an upstream burst from the ONU. Now, with .3ca combining multiple LLID transmissions into a single burst, the definition of a Grant became somewhat ambiguous. Under current definition, Grant causes transmission of one envelope, but we need a term that describes the entire ONU transmission (all envelopes that form one burst).

SuggestedRemedy

Adopt the following definitions:

1. Grant: The term Grant refers to a single transmission window allocated to an ONU. A grant includes one or more envelope allocations. The OLT conveys a grant to the ONU using one or multiple GATE MPCPDUs, all having the same StartTime values. There is one-to-one correspondence between the grants issued to an ONU and upstream bursts transmitted by that ONU, i.e., a grant issued to an ONU results in a single upstream burst transmitted by that ONU.

2. Envelope Allocation: a transmission window allocated to a single LLID (including GLID). A single GATE MPCPDU can carry up to seven envelope allocations

3. Envelope: an upstream transmission that corresponds to an envelope allocation received from the OLT. The order of envelopes in an upstream burst shall match order of envelope allocations received in corresponding GATE MPCPDU(s). An envelope carries data belonging to a specific LLID (excluding GLID), i.e., the data or idles sourced from a specific MAC. An envelope starts with an Envelope Start Header (ESH) and continues uninterrupted for the number of EQs represented by the EnvLength parameter.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt the following definitions:

1. Grant: (copy from existing 802.3 definition) <show the following text as inserted> In Clause 144, a grant includes one or more envelope allocations. The OLT conveys a grant to the ONU using one or multiple GATE MPCPDUs, all having the same StartTime values. There is one-to-one correspondence between the grants issued to an ONU and upstream bursts transmitted by that ONU, i.e., a grant issued to an ONU results in a single upstream burst transmitted by that ONU.

2. Envelope Allocation: a transmission window allocated to a single LLID (including GLID). A single GATE MPCPDU can carry up to seven envelope allocations.

3. Envelope: an upstream transmission that corresponds to an envelope allocation received from the OLT. The order of envelopes in an upstream burst matches the order of envelope allocations received in corresponding GATE MPCPDU(s). An envelope carries data belonging to a specific LLID (excluding GLID), i.e., the data or idles sourced from a specific

MAC. An envelope starts with an Envelope Start Header (ESH) and continues uninterrupted for the number of EQs represented by the EnvLength parameter.

Cl **1** *SC* **1.4.1a** *P* **20** *L* **16** # 10

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Section numbers incorrect.

SuggestedRemedy

Align to P8023_D3p2_SECTION1 numbering

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.7a** *P* **20** *L* **36** # 11

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. We are no longer planning 4 channel ONU or OLT.

SuggestedRemedy

Remove definitions for 100/x-ONUs (1.4.7a to 1.4.10a)

Response *Response Status* **C**

ACCEPT.

See comment #134

Cl **1** *SC* **1.4.12a** *P* **21** *L* **3** # 12

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

missing article "at appropriate"

SuggestedRemedy

change to "at the appropriate"

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.13a** *P* **21** *L* **6** # 13

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

missing period

SuggestedRemedy

add after "(Envelope Continuation Header)"

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.15a** *P* **21** *L* **11** # 14

Remein, Duane Huawei Technologies

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

Definition for LLID conflicts with 1.4.313 in revision

SuggestedRemedy

Show as update to 1.4.313 to read:
Logical Link Identifier (LLID): A numeric identifier assigned to a P2MP association between an OLT and ONU established through the Point-to-Point Emulation sublayer. Each P2MP association is assigned a unique LLID. The P2MP association is bound to an ONU DTE, where a MAC would observe a private association. In {100G-EPON} a collective term that refers to Physical Layer ID, Management Link ID, User Link ID, and Group Link ID.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Show as update to 1.4.313 to read:
<mark as changes for 802.3REV>
Logical Link Identifier (LLID): A numeric identifier assigned to a P2MP association between an OLT and ONU established through the Point-to-Point Emulation <insert>function of the Reconciliation <strike>s</strike>S</insert>ublayer. Each P2MP association is assigned a unique LLID. The P2MP association is bound to an ONU DTE, where a MAC would observe a private association. <insert>In Nx25G-EPON, it is also a collective term that refers to Physical Layer ID (PLID), Management Link ID (MLID), User Link ID (ULID), and Group Link ID (GLID).</insert>

Cl **1** *SC* **1.4.17a** *P* **21** *L* **18** # 15

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *Table 2-1*

I'm not aware of any power budget tables in Section 1.4

SuggestedRemedy

Convert 25/10GBASE-PR, 25GBASE-PR, 50/25GBASE-PR, and 50GBASE-PR definitions to proper format of form:
IEEE 802.3 Physical Layer specifications for a xx Gb/s downstream yy Gb/s upstream point-to-multipoint link over one single-mode optical fiber. (See IEEE Std 802.3, Table 56–1, Clause 141, Clause 142, Clause 143, and Clause 144).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove Table 2-1.

Cl **1** *SC* **1.4.17a** *P* **21** *L* **19** # 139

Hajduczenia, Marek Charter Communicatio

Comment Type **T** *Comment Status* **A** *Table 2-1*

Table 2-1 is missing entry for 50/10GBASE-PR

SuggestedRemedy

Add a new row before 50/25GBASE-PR with the following content:
50/10GBASE-PR | 2 | 1 (10 Gbs/)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #15

Cl **1** *SC* **1.4.17a** *P* **21** *L* **19** # 140

Hajduczenia, Marek Charter Communicatio

Comment Type **T** *Comment Status* **A** *Table 2-1*

Table 2-1 is missing entry for 50GBASE-PR

SuggestedRemedy

Add a new row after 50/25GBASE-PR with the following content:
50GBASE-PR | 2 | 2

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #15

Cl **1** *SC* **1.4.17a** *P* **21** *L* **27** # 159

Brown, Alan ADTRAN, Inc.

Comment Type **E** *Comment Status* **A** *Table 2-1, 100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Delete 100G rows from Table 2-1--Power Budgets.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #15

Cl **1** *SC* **1.4.18a** *P* **21** *L* **32** # 160

Brown, Alan ADTRAN, Inc.

Comment Type **E** *Comment Status* **A** *bucket*

This clause is empty.

SuggestedRemedy

Remove empty clause, unless it is to serve as a placeholder, in which case add an editorial comment to that effect indicating needed content. This should be done for all empty clauses, including the following:

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **21** *L* **38** # 16

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

abbreviation for ABBR is not needed

SuggestedRemedy

remove.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **21** *L* **38** # 17

Remein, Duane — Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Abbreviations should be in alphabetical order

SuggestedRemedy

sort properly

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **21** *L* **38** # 161

Brown, Alan — ADTRAN, Inc.

Comment Type **E** *Comment Status* **A** *bucket*

"ABBR" and "expanded version" are not intended to be included in the draft. The document 802.3-2017 already includes an appropriate introduction.

SuggestedRemedy

Remove the line containing the quoted text.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **21** *L* **38** # 135

Hajduczenia, Marek — Charter Communicatio

Comment Type **E** *Comment Status* **A** *bucket*

"ABBR expanded version" should be removed it is left over from template

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **56** *SC* **56** *P* **25** *L* **1** # 19

Remein, Duane — Huawei Technologies

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

Open Table 56-1 and add entries for 25/10GBASE-PR, 25GBASE-PR, 50/25GBASE-PR, and 50GBASE-PR.

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use PMD names per johnson_3a_3_0518.xlsx, just use 25G table (leftmost).

Cl **141** *SC* **141** *P* **23** *L* **2** # 18

Remein, Duane — Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. It does not appear we will be doing 100G-EPON just yet.

SuggestedRemedy

Remove all instances of 100G-EPON from the draft except in page headers. May be replaced by; nothing (as in this title), "25–EPON and 50G–EPON", or "25–EPON or 50G–EPON" as dictated by context.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace all instances of "25G-EPON, 50G-EPON, and 100G-EPON" with "Nx25G-EPON"

Comment is really against page 25, line 2

Cl **141** *SC* **141** *P* **25** *L* **1** # 162

Brown, Alan — ADTRAN, Inc.

Comment Type **T** *Comment Status* **A** *100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Rename clause: change "25G- EPON, 50G-EPON, and 100G-EPON" to "25G- EPON and 50G-EPON".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #18

Changed type from E to T

Cl **141** *SC* **141** *P* **25** *L* **1** # 173

Harstead, Ed Nokia

Comment Type **TR** *Comment Status* **A** *100G-EPON*

Section title refers to 100G EPON *PMD*

SuggestedRemedy

Remove text "100G-EPON"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #18.

Changed type from E to T

Cl **141** *SC* **141.1** *P* **25** *L* **7** # 141

Hajduczenia, Marek Charter Communicatio

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

Overview mentions 100G but not 10G

SuggestedRemedy

Change:
operating at the line rate of 25, 50, or 100 Gb/s, in either downstream or in both downstream and upstream directions.
To:
operating at the line rate of 25 or 50 Gb/s in the downstream direction and the line rate of 10, 25, or 50 Gb/s in the upstream direction.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:

operating at the line rate of 25, 50, or 100 Gb/s, in either downstream or in both downstream and upstream directions.

To:

operating at the aggregate line rate of 25 or 50 Gb/s in the downstream direction and the aggregate line rate of 10, 25, or 50 Gb/s in the upstream direction.

Cl **141** *SC* **141.1** *P* **25** *L* **7** # 20

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Assuming you will want to use this abbreviation, add "(EPON") after "Ethernet Passive Optical Networks".

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.1** *P* **25** *L* **8** # 163

Brown, Alan ADTRAN, Inc.

Comment Type **T** *Comment Status* **A** *100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Change "25, 50, or 100 Gb/s," to "25 or 50 Gb/s".

Response *Response Status* **C**

ACCEPT.

Changed E to T

Cl **141** *SC* **141.1.1** *P* **25** *L* **16** # 21

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Per IEEE Style Guide italics font is reserved for variable names.

SuggestedRemedy

Use normal font for upstream and downstream

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.1.2** *P* **25** *L* **22** # 144

Hajduczenia, Marek Charter Communicatio

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

Definition of medium power budget is not consistent with the discussion at the last F2F meeting - 24dB Channel Insertion loss assumed distance of 20km, not 10km

SuggestedRemedy

Change:
with the split ratio of at least 1:16 and the distance of at least 20 km or a PON with the split ratio of at least 1:32 and the distance of at least 10 km.
To:
with the split ratio of at least 1:16 and the distance of at least 20 km.

Response *Response Status* **C**

REJECT.

The operation of the same power budget at shorter distance is even simpler, since the transmission impairments are lower.

Cl **141** *SC* **141.1.2** *P* **25** *L* **22** # 22

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Missing article "supports P2MP" (also in line 25).

SuggestedRemedy

"supports a P2MP"

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.1.3** *P* **25** *L* **33** # 23

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

"for PON" s/b plural (Also line 35)

SuggestedRemedy

"for PONs"

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.1.3** *P* **25** *L* **36** # 142

Hajduczenia, Marek Charter Communicatio

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

Definition of PR-A power budget is open-ended

SuggestedRemedy

Change:
PR-A power budget describes asymmetric-rate PHY for PON operating at 25 Gb/s or 50 Gb/s in the downstream direction and 10 Gb/s and above in the upstream direction, over a single SMF
To:
PR-A power budget describes asymmetric-rate PHY for PON operating at 25 Gb/s in the downstream direction and 10 Gb/s in the upstream direction, or 50 Gb/s in the downstream direction, and 10 or 25 Gb/s in the upstream direction, over a single SMF

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert editorial note into 141.1.3 indicating that Glen Kramer will provide a consistent way to reference power budgets. Current text otherwise stays unchanged.

Cl **141** *SC* **141.1.3** *P* **26** *L* **3** # 143

Hajduczenia, Marek Charter Communicatio

Comment Type **T** *Comment Status* **A** *Table 141-1*

Table 141-1 is missing basic information on individual power budgets and associated data rates

SuggestedRemedy

Use hajduczenia_3ca_4_0518.pdf for table structure and data updates.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #141.

Cl **141** *SC* **141.1.4** *P* **26** *L* **41** # 24

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **D** *100G-EPON*

100G-EPON stuff. The TF needs to make a decision regarding support of 50/10Gb/s devices. Suggested solution assumes it is removed. If the TF decides to keep this variant then there are numerous places in the draft that list the PMD where 50/10GBASE-PR should be added.

SuggestedRemedy

Strike all instance of 50/10G*:
pg. Line Phrase
3 3 "50/10 Gb/s,"
26 41 "50/10G-EPON" (move the and in list)
34 39 "50/10GBASE-PR20-D" (3 instances in draft)
35 45 "50/10GBASE-PR30-D" (3 instances in draft)

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

As discussed, 50/10G is within the scope and has not been removed in any way. Technically, there is nothing that prevents operation of 2 downstream 25G channels and a single 10G upstream channel.

Cl **141** *SC* **141.2** *P* **27** *L* **1** # 145

Hajduczenia, Marek Charter Communicatio

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

Figure 141-1 shows 4 x 25GMII, providing 100G connectivity. Per updated objectives, we support 50G only

SuggestedRemedy

Change Figure 141-1 per hajduczenia_3ca_5_0518.pdf, were the number of supported PHY instances is shown to be 1 or 2. With the dashed line, it can be used pretty much for any number of PHY instances supported by the PMD and MPRS.
Similar figure can be used in Clauses 142, 143, and 144 with proper shading to show specific sublayer(s) defined in the given Clause.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Update the figures proposed in hajduczenia_3ca_5_0518.pdf to include the following changes:
- remove FEC (Clause 142) as a separate sublayer
- rename MPCP to MPMC, change abbreviations at the bottom
- OAM is not optional

Cl **141** *SC* **141.2** *P* **28** *L* **6** # 25

Remein, Duane Huawei Technologies

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

"Such PMDs are further distinguished by appending a digit after the suffix D or U." Looks like two digits to me that indicate power budget as explained in 141.1.3 quite well. Could change "a digit" to "two digits" or just drop the whole para, seems a bit late to make this point in any case.

SuggestedRemedy

Strike para.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **141** *SC* **141.2.1.1** *P* **28** *L* **40** # 26

Remein, Duane Huawei Technologies

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

Do we really need to list PMD names in section titles (e.g., {PMD_X} & ({NG}-type)? I think not.

SuggestedRemedy

Strike "{PMD_X}", "({NG} type)", and "{PMD_Y}" from the draft.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert editorial note: improved text to be proposed by the Nomenclature Committee.

Cl **141** *SC* **141.3** *P* **26** *L* **3** # 153

Harstead, Ed Nokia

Comment Type **TR** *Comment Status* **A** *Table 141-1*

Nominal wavelengths missing in Table 141-1

SuggestedRemedy

UW0=1270 nm, UW1=1300 nm, UW2=1320 nm, DW0=1358 nm, DW1=1324 nm. Or, is this redundant with Table 141–5, -6?

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #154

Cl **141** *SC* **141.3** *P* **26** *L* **3** # 154

Harstead, Ed Nokia

Comment Type **TR** *Comment Status* **A** *Table 141-1*

Wavelengths tolerances missing in Table 141-1

SuggestedRemedy

UW0=+/-10 nm, UW1=+/-10 nm, UW2=+/-2 nm, DW0=+/-2 nm, DW1=+/-2 nm. Or, is this redundant with Table 141–5, -6?

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Kill columns for Center frequency in -6 and -5 tables.

Cl **141** *SC* **141.3** *P* **29** *L* **28** # 27

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

More placeholders "{NG-EPON type}"

SuggestedRemedy

Replace 8x with "25G-EPON and 50G-EPON"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace all instances of "{NG-EPON type} PMDs" with "PQ-type PMDs"

Cl **141** *SC* **141.3** *P* **30** *L* **19** # 155

Harstead, Ed Nokia

Comment Type **ER** *Comment Status* **A** *100G-EPON*

Multiple references to 100G-EPON PMD at this line and following

SuggestedRemedy

Replace with 25G- and 50G-EPON PMDs

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #164

Cl **141** *SC* **141.3.1** *P* **29** *L* **41** # 28

Remein, Duane Huawei Technologies

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

We should align text with the channelized PMD.

SuggestedRemedy

Given the single channelized PMD interfaces with multiple PMAs the PMD service interface naming should reflect this. Change "PMD_UNITDATA." to "PMD_UNITDATAch." and "PMD_SIGNAL." to "PMD_SIGNALch." and add the following to the end of para at pg. 29 line 40 "Where "ch" represents the PMA Channel; 1 for 2." Change "between the PMA and PMD entities" to "between the PMAch and PMD entities" at pg. 29 line 38. The 7 instances of "{TBD, depending on the structure of PMA}" in Cl 141.3.x will be dealt with in a separate comments.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Agreed on the scope of suggested change. However, rather than add "ch" to the primitive name, use [i] designator as shown below:

— PMD_UNITDATA[i].request
— PMD_UNITDATA[i].indication
— PMD_SIGNAL[i].request
— PMD_SIGNAL[i].indication

add the following to the end of para at pg. 29 line 40 "Where "[i]" represents the PMA Channel: 0 or 1." Change "between the PMA and PMD entities" to "between the PMA[i] and PMD entities" at pg. 29 line 38.

Cl **141** *SC* **141.3.1.2** *P* **29** *L* **52** # 29

Remein, Duane Huawei Technologies

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

"Clause 201" s/b Cl 142 (2 instances).

SuggestedRemedy

Change to: "Clause 142" with live link to clause.

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.3.1.2** *P* **30** *L* **1** # 30

Remein, Duane Huawei Technologies

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

Replace "{TBD, depending on the structure of PMA}" with:

SuggestedRemedy

The semantics of the service primitive are PMD_UNITDATAch.request(tx_bit). The data conveyed by PMD_UNITDATAch.request is a continuous stream of bits. The tx_bit parameter can take one of two values: ONE or ZERO. The Clause 142 PMA continuously sends the appropriate stream of bits to the PMD for transmission on the medium, at a nominal signaling speed of 25.7812 GBd in the case of 25G–EPON or 50G-EPON OLT and ONU PMDs. The {Clause 77} PMA continuously sends the appropriate stream of bits to the PMD for transmission on the medium, at a nominal signaling speed of 10.3125 GBd in the case of 25/10G–EPON ONU PMDs. Upon the receipt of this primitive, the PMD converts the specified stream of bits into the appropriate signals at the MDI.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text:

The semantics of the service primitive are PMD_UNITDATA[i].request(tx_bit). The data conveyed by PMD_UNITDATA[i].request is a continuous stream of bits. The tx_bit parameter can take one of two values: ONE or ZERO. The Clause 142 PMA continuously sends the appropriate stream of bits to the PMD for transmission on the medium, at a nominal signaling speed of 25.78125 GBd in the case of Nx25G-EPON OLT and ONU PMDs. The Clause 142 PMA continuously sends the appropriate stream of bits to the PMD for transmission on the medium, at a nominal signaling speed of 10.3125 GBd in the case of 25/10G-EPON and 50/10G–EPON ONU PMDs. Upon the receipt of this primitive, the PMD converts the specified stream of bits into the appropriate signals at the MDI.

Cl **141** *SC* **141.3.1.3** *P* **30** *L* **6** # 31

Remein, Duane Huawei Technologies

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

Replace "{TBD, depending on the structure of PMA}" with:

SuggestedRemedy

The semantics of the service primitive are PMD_UNITDATAch.indication(rx_bit). The data conveyed by PMD_UNITDATA.indication is a continuous stream of bits. The rx_bit parameter can take one of two values: ONE or ZERO. The PMD continuously sends a stream of bits to the Clause 142 PMA corresponding to the signals received from the MDI, at the nominal signaling speed of 25.7812 GBd in the case of 25G–EPON or 50G–EPON OLT and ONU PMDs or to the {Clause 77} PMA at the nominal signaling speed of 10.3125 GBd in the case of 10/1G–EPON OLT PMDs.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text

The semantics of the service primitive are PMD_UNITDATA[i].indication(rx_bit). The data conveyed by PMD_UNITDATA[i].indication is a continuous stream of bits. The rx_bit parameter can take one of two values: ONE or ZERO. The PMD continuously sends a stream of bits to the Clause 142 PMA corresponding to the signals received from the MDI, at the nominal signaling speed of 25.78125 GBd in the case of Nx25G–EPON OLT and ONU PMDs or to the Clause 142 PMA at the nominal signaling speed of 10.3125 GBd in the case of 25/10G–EPON and 50/10G-EPON OLT PMDs.

Cl **141** *SC* **141.3.1.4** *P* **30** *L* **10** # 32

Remein, Duane Huawei Technologies

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

Replace "{TBD, depending on the structure of PMA}" with:

SuggestedRemedy

In the upstream direction, this primitive is generated by the Clause 142 PMA to turn on and off the transmitter according to the granted time. A signal for laser control is generated as described in 142.x.x.x for the Clause 142 PCS.
The semantics of the service primitive are PMD_SIGNALch.request(tx_enable). The tx_enable parameter can take on one of two values: ENABLE or DISABLE, determining whether the PMD transmitter is on (enabled) or off (disabled). The Clause 142 PMA generates this primitive to indicate a change in the value of tx_enable. Upon the receipt of this primitive, the PMD turns the transmitter on or off as appropriate.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text

In the upstream direction, this primitive is generated by the Clause 142 PMA to turn on and off the transmitter according to the granted time. A signal for laser control is generated as described in {142.x.x.x} for the Clause 142 PCS.
The semantics of the service primitive are PMD_SIGNAL[i].request(tx_enable). The tx_enable parameter can take on one of two values: ENABLE or DISABLE, determining whether the PMD transmitter is on (enabled) or off (disabled). The Clause 142 PMA generates this primitive to indicate a change in the value of tx_enable. Upon the receipt of this primitive, the PMD turns the transmitter on or off as appropriate.

Cl **141** *SC* **141.3.1.5** *P* **30** *L* **14** # 33

Remein, Duane Huawei Technologies

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

Replace "{TBD, depending on the structure of PMA}" with:

SuggestedRemedy

This primitive is generated by the PMD to indicate the status of the signal being received from the MDI. The semantics of the service primitive are PMD_SIGNALch.indication(SIGNAL_DETECT). The SIGNAL_DETECT parameter can take on one of two values: OK or FAIL, indicating whether the PMD is detecting light at the receiver (OK) or not (FAIL). When SIGNAL_DETECT = FAIL, PMD_UNITDATAch.indication(rx_bit) is undefined. The PMD generates this primitive to indicate a change in the value of SIGNAL_DETECT. If the MDIO interface is implemented, then PMD_global_signal_detect shall be continuously set to the value of SIGNAL_DETECT.
NOTE—SIGNAL_DETECT = OK does not guarantee that PMD_UNITDATAch.indication(rx_bit) is known good. It is possible for a poor quality link to provide sufficient light for a SIGNAL_DETECT = OK indication and still not meet the specified bit error ratio. PMD_SIGNALch.indication(SIGNAL_DETECT) has different characteristics for upstream and downstream links, see 141.x.x.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text:

This primitive is generated by the PMD to indicate the status of the signal being received from the MDI. The semantics of the service primitive are PMD_SIGNAL[i].indication(SIGNAL_DETECT). The SIGNAL_DETECT parameter can take on one of two values: OK or FAIL, indicating whether the PMD is detecting light at the receiver (OK) or not (FAIL). When SIGNAL_DETECT = FAIL, PMD_UNITDATA[i].indication(rx_bit) is undefined. The PMD generates this primitive to indicate a change in the value of SIGNAL_DETECT. If the MDIO interface is implemented, then PMD_global_signal_detect shall be continuously set to the value of SIGNAL_DETECT.
NOTE—SIGNAL_DETECT = OK does not guarantee that PMD_UNITDATA[i].indication(rx_bit) is known good. It is possible for a poor quality link to provide sufficient light for a SIGNAL_DETECT = OK indication and still not meet the specified bit error ratio. PMD_SIGNAL[i].indication(SIGNAL_DETECT) has different characteristics for upstream and downstream links, see {141.x.x}.

Cl **141** *SC* **141.3.2** *P* **30** *L* **19** # 164

Brown, Alan ADTRAN, Inc.

Comment Type **E** *Comment Status* **A** *100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Change "100G-EPON PMDs" to "25G-EPON PMDs and 50G-EPON PMDs".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change all instances of "100G-EPON PMD" with "PQ-type PMD"

Cl **141** *SC* **141.3.3** *P* **30** *L* **37** # 34

Remein, Duane Huawei Technologies

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

Replace "{TBD, depending on the structure of PMA}" with:

SuggestedRemedy

The PMD Transmit function shall convey the bits requested by the PMD service interface message PMD_UNITDATAch.request(tx_bit) to the MDI according to the optical specifications in Clause 141. In the upstream direction, the flow of bits is interrupted according to PMD_SIGNAL.request(tx_enable). This implies three optical levels, 1, 0, and dark, the latter corresponding to the transmitter being in the OFF state. The higher optical power level shall correspond to tx_bit = ONE.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text:

The PMD Transmit function shall convey the bits requested by the PMD service interface message PMD_UNITDATA[i].request(tx_bit) to the MDI according to the optical specifications in Clause 141. In the upstream direction, the flow of bits is interrupted according to PMD_SIGNAL[i].request(tx_enable). This implies three optical levels, 1, 0, and dark, the latter corresponding to the transmitter being in the OFF state. The higher optical power level shall correspond to tx_bit = ONE.

Cl **141** *SC* **141.3.4** *P* **30** *L* **41** # 35

Remein, Duane Huawei Technologies

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

Replace "{TBD, depending on the structure of PMA}" with:

SuggestedRemedy

The PMD Receive function shall convey the bits received from the MDI according to the optical specifications in Clause 141 to the PMD service interface using the message PMD_UNITDATAch.indication(rx_bit). The higher optical power level shall correspond to rx_bit = ONE.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text

The PMD Receive function shall convey the bits received from the MDI according to the optical specifications in Clause 141 to the PMD service interface using the message PMD_UNITDATA[i].indication(rx_bit). The higher optical power level shall correspond to rx_bit = ONE.

Cl **141** *SC* **141.3.5.1** *P* **30** *L* **47** # 36

Remein, Duane Huawei Technologies

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

Replace "{TBD, depending on the structure of PMA}" with:

SuggestedRemedy

The PMD Signal Detect function for the continuous mode downstream signal shall report to the PMD service interface, using the message PMD_SIGNALch.indication(SIGNAL_DETECT), which is signaled continuously. PMD_SIGNALch.indication is intended to be an indicator of the presence of the optical signal. The value of the SIGNAL_DETECT parameter shall be generated according to the conditions defined in Table 141-4 for 25G–EPON and 50G–EPON PMDs. The ONU PMD receiver is not required to verify whether a compliant 25G–EPON or 50G–EPON signal is being received.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text

The PMD Signal Detect function for the continuous mode downstream signal shall report to the PMD service interface, using the message PMD_SIGNAL[i].indication(SIGNAL_DETECT), which is signaled continuously. PMD_SIGNAL[i].indication is intended to be an indicator of the presence of the optical signal. The value of the SIGNAL_DETECT parameter shall be generated according to the conditions defined in Table 141-4 for Nx25G–EPON PMDs. The ONU PMD receiver is not required to verify whether a compliant Nx25G-EPON signal is being received.

Cl **141** *SC* **141.3.5.2** *P* **31** *L* **1** # 146

Hajduczenia, Marek Charter Communicatio

Comment Type **T** *Comment Status* **A** *Figure 141-2*

Figure 141-2 has reference to 10G-EPON in the title

SuggestedRemedy

Change title of Figure 141-2 to read "Clause 141 EPON block diagram"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change title of Figure 141-2 to read "Nx25G-EPON block diagram"

In Figure 141-2, add "[i]" to TP1, TP4, TP5, and TP8.

Cl **141** *SC* **141.3.5.2** *P* **31** *L* **31** # 37

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *Figure 141-2*

We can at least fix the figure title

SuggestedRemedy

Change "10GBASE–PR and 10/1GBASE–PRX block diagram" to "25–EPON and 50G–EPON block diagram"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #146

Cl **141** *SC* **141.3.5.2** *P* **31** *L* **37** # 38

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. If only we were doing a 100G-EPON.

SuggestedRemedy

Change "100G-EPON" to "25G–EPON or 50G–EPON" in 2 places in this para.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #164

Cl **141** *SC* **141.3.5.3** *P* **31** *L* **49** # 165

Brown, Alan ADTRAN, Inc.

Comment Type **E** *Comment Status* **A** *100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Change "100G-EPON PMD" to "25G-EPON PMD" over "50G-EPON PMD", stacked in column.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #164

Cl **141** *SC* **141.5.1** *P* **34** *L* **52** # 157

Harstead, Ed Nokia

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

Value for Average launch power, each channel (min) is in wrong field (max)

SuggestedRemedy

Move "4.8" to Average launch power, each channela (min)

Response *Response Status* **C**

ACCEPT.

Move "4.8" to Average launch power, each channel (min)

Comment is on page 33

Cl **141** *SC* **141.5.2** *P* **34** *L* **40** # 156

Harstead, Ed Nokia

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

Missing channel wavelength ranges in Table 141–9. Same for Table 141-10, -11, -12, -13

SuggestedRemedy

Add as abovie. Or remove (redundant with Table 141–5, -6).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use all table values per johnson_3ca_4_0518.pdf with editorial license to align the format of tables as needed.

Cl **141** *SC* **141.6** *P* **36** *L* **47** # 39

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

More placeholders.

SuggestedRemedy

Change first "{XXX}" to "medium" and second to "25–EPON or 50G–EPON"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change all instances of "{XXX} power budget" to "PQ power budget"

Cl **141** *SC* **141.6.2** *P* **39** *L* **3** # 40

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

Even more placeholders.

SuggestedRemedy

Change {PMD-types} to "25–EPON or 50G–EPON"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change all instances of "{PMD-types} ONU" to "Nx25G-EPON ONU"

Change all instances of "{PMD-types} OLT" to "Nx25G-EPON OLT"

Cl **141** *SC* **141.7.1.** *P* **40** *L* **49** # 147

Hajduczenia, Marek Charter Communicatio

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

Wavelengths for insertion loss measurement are now defined

SuggestedRemedy

Change:
Insertion loss for SMF fiber optic cabling (channel) is defined at {TBD, NG-EPON wavelengths},
To:
Insertion loss for SMF fiber optic cabling (channel) is defined at 1270 nm, 1300 nm, 1320 nm, 1342 nm, or 1358 nm,

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:

Insertion loss for SMF fiber optic cabling (channel) is defined at {TBD, NG-EPON wavelengths},

To:

Insertion loss for SMF fiber optic cabling (channel) is defined at the wavelengths specified in Table 141–5 and Table 141–6,

Cl **141** *SC* **141.7.2** *P* **41** *L* **3** # 148

Hajduczenia, Marek Charter Communicatio

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

Section on allocation for penalties is TBD right now

SuggestedRemedy

Use the following text derived from 75.7.2:
All the receiver types specified in Clause 141 are required to tolerate a path penalty not exceeding 1 dB to
account for total degradations due to reflections, intersymbol interference, mode partition noise, laser chirp
and detuning of the central wavelength, including chromatic dispersion penalty. All the transmitter types
specified in Clause 141 introduce less than 1 dB of optical path penalty over the channel. The path penalty is
a component of transmitter and dispersion penalty (TDP), which is specified in Table 141-7, Table 141-8, Tale 141-11, and
Table 141-12 and described in 52.9.10, with the measurement procedure defined in 114.7.5.1, 114.7.5.3, and 114.7.5.4.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove subclause 141.7.2

Cl **141** *SC* **141.7.3** *P* **41** *L* **7** # 149

Hajduczenia, Marek Charter Communicatio

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

Section on test patterns is TBD right now

SuggestedRemedy

The test patterns used in this clause shall be the same as those used for 100GBASE-SR4, as described in
95.8.1 and shown in Table 95–9, with the exception that pattern 5, the scrambled idle test pattern defined in
82.2.11, is encoded by Clause 108 RS-FEC for 25GBASE-LR and 25GBASE-ER. The multi-lane testing
considerations described in 95.8.1.1 do not apply. Table 114–9 shows the test patterns to be used in each
measurement, unless otherwise specified, and also lists references to the subclauses in which each parameter
is defined.

Effectively, the text from 25GBASE-R is proposed to be reused as the baseline.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The test patterns used in this clause shall be the same as those used for 100GBASE-LR4, as described in 88.8.1 and shown in Table 88-10, with the exception of Pattern 5. Table 88–11 shows the test patterns to be used in each measurement, unless otherwise specified, and also lists references to the subclauses in which each parameter is defined.

Cl **141** *SC* **141.7.15.1** *P* **42** *L* **37** # 41

Remein, Duane Huawei Technologies

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

Slightly confusing "Treceiver_settling is denoted as the time beginning from the time that the optical power in the receiver at TP7 reaches the conditions specified in 141.7.12 and ending at the time that ..."

SuggestedRemedy

Precede the first time with "elapsed" and change 2nd & 3rd time to moment so the phrase reads "Treceiver_settling is denoted as the elapsed time beginning from the moment that the optical power in the receiver at TP7 reaches the conditions specified in 141.7.12 and ending at the moment that ..."

Response *Response Status* **C**

ACCEPT.

Type changed from E to T

Cl **141** *SC* **141.7.15.1** *P* **43** *L* **49** # 42

Remein, Duane Huawei Technologies

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

While I realize that the following sentence is directly taken from the standard in Cl 75 it should be removed, or at least converted into a complete sentence. Can anyone even tell me what it is intended to mean and what value it adds to the standard?
"A non-rigorous way to describe this test setup would be (using a transmitter with a known Ton)."

SuggestedRemedy

Strike.

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.7.15.1** *P* **43** *L* **53** # 43

Remein, Duane Huawei Technologies

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

Use of "reassuring" isn't very comforting (a synonym).

SuggestedRemedy

Change to confirming

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "reassuing" to "assuring"

Cl **141** *SC* **141.8.2** *P* **44** *L* **9** # 166

Brown, Alan ADTRAN, Inc.

Comment Type **T** *Comment Status* **A** *100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Change "100G-EPON" to "25G-EPON and 50G-EPON" in these locations (page/line):
44/9, 44/28, 44/36

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "100G-EPON optical transceivers" to "Nx25G-EPON optical transceivers"

Changed type from E to T

Cl **141** *SC* **141.8.5** *P* **44** *L* **39** # 44

Remein, Duane Huawei Technologies

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

Replace "{list NG-EPON PMDs}" with

SuggestedRemedy

25/10GBASE-PR20-D
25GBASE-PR20-D
50/25GBASE-PR20-D
50GBASE-PR20-D
25/10GBASE-PR30-D
25GBASE-PR30-D
50/25GBASE-PR30-D
50GBASE-PR30-D

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use PMD names per johnson_3a_3_0518.xlsx, just use 25G table (leftmost).

Cl **141** *SC* **141.9.1** *P* **45** *L* **2** # 45

Remein, Duane Huawei Technologies

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

Why the reference to Cl 75?

SuggestedRemedy

Change "Table 75B–1 and Table 75B–2" to "TBD"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the note to say: NOTE—The optical splitter presented in Figure 141–2 may be replaced by a number of smaller 1:n splitters such that a different topology may be implemented while preserving the link characteristics and power budget.

Cl **141** *SC* **141.9.3** *P* **45** *L* **18** # 150

Hajduczenia, Marek Charter Communicatio

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

Nominal wavelengths are missing in Table 141-15

SuggestedRemedy

Add nominal wavelengths: 1270 nm, 1300 nm, 1320 nm, 1342 nm, 1358 nm and add columns are needed

Response *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.9.3** *P* **45** *L* **41** # 167

Brown, Alan ADTRAN, Inc.

Comment Type **E** *Comment Status* **A** *100G-EPON*

Motion #9 during Nov. 2017 TF meeting removed Objective for 100G.

SuggestedRemedy

Change "100G-EPON" to "25G-EPON or 50G-EPON" in these locations (page/line): 45/41

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #164

Cl **142** *SC* **142.1** *P* **49** *L* **7** # 46

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Abbreviations are to be properly introduced.

SuggestedRemedy

Change "FEC" to "forward error correction (FEC)". On line 41 change "forward error correction (FEC)" to "FEC"

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.1** *P* **49** *L* **31** # 47

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Why define an abbreviation if you don't use it?

SuggestedRemedy

Change "physical coding sublayers" to "PCS" and on line 32 change "point-to-multipoint physical" to P2MP".

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.1** *P* **49** *L* **46** # 48

Remein, Duane Huawei Technologies

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

Update to Figure 142-1.

SuggestedRemedy

See remein_3ca_1_0518.pdf (also available in visio).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use: remein_3ca_4_0518.pdf

Cl **142** *SC* **142.2.2.2.1** *P* **53** *L* **5** # 133

Hajduczenia, Marek Charter Communicatio

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

Content of 142.2.2.2.1 is missing

SuggestedRemedy

Use hajduczenia_3ca_3_0518.pdf for text and drawing of the upstream burst structure

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

To be resubmitted against D1.1 with changes to be discussed on the biweekly calls.

Cl **142** *SC* **142.2.2.5.1** *P* **53** *L* **38** # 128

Laubach, Mark Broadcom Inc.

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

Motion #6 from the March 2018 Rosemont, IL Task Force meeting, adopted slide 6 of kramer_3ca_1_0318.pdf as part of the improved alignment motion. However, the adopted updated parity matrix, puncturing, information word and parity word sizes were sized for the "New Code" option on slide 9, which is slightly different than slide 6. These changes adjust the information word size and shortening to match slide 6. Note that the actual parity code matrix is the same, no changes. For the May TF meeting, laubach_3ca_1_0518.pdf summarizes performance impact of these small adjustments.

SuggestedRemedy

Page 53:
Line 38: change "14328" to "14392"
Line 39: change "264" to "200"
Line 44: change "16888" to "16952"
Line 47: change "0.8484" to "0.849"

Page 56:
Line 52: change "264" to "200"
Line 53: change "0.8484" to "0.849"

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.2.5.1** *P* **54** *L* **8** # 131

Laubach, Mark Broadcom Inc.

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

In Figure 142-3, the circled "+" should be a mux symbol to combine "M+P-bit LDPC parity" with "M-bit parity" and "K-bit user", not to serially add them. Also need to correct a box label in the figure and formula in the text to be clear on use of de-interleaved info as input to the encoder.

SuggestedRemedy

1) Change "circle-+" symbol to a mux symbol (see original submitted draft word file). For clarity, label the bottom arrow (that comes from the far left) with "K-bit information" aligned under "M-bit parity"
2) Change the box text "Information Bit
Interleaver" to "Information Bit
De-interleaver"
Corresponding text change Page 57, Line 19:
3) Change "<pi>" symbol to "<pi>-1" where the
"-1" is a superscript.

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.2.5.2** *P* **54** *L* **49** # 129

Laubach, Mark Broadcom Inc.

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

In Table 142-1, a few of the values have errors from the source material. (Verified from both the original .docx (pdf) file and the .txt file.)

SuggestedRemedy

Page 54: Line 49, Col C7: change "204" to "104"
Page 54: Line 51, Col C5: change "01" to "-1"
Page 56, Line 23, Col C5: change "235" to "135"
Page 56, Line 32, Col C7: change "259" to "159"

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.2.5.2** *P* **57** *L* **6** # 49

Remein, Duane Huawei Technologies

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

There is no reference to Figure 142-2

SuggestedRemedy

Add reference in text.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Likely Figure 142-4 is the subject of this comment. Add the following statement on page 56, line 53 (at the end): "The Codeword Information/Parity Location assignment is shown in Figure 142-4" (make the link live)

Cl **142** *SC* **142.2.2.5.3** *P* **57** *L* **22** # 130

Laubach, Mark Broadcom Inc.

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

Should be "parity" and not "info".

SuggestedRemedy

Change subscript "info" to "parity"

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.2.5.3** *P* **57** *L* **27** # 132

Laubach, Mark Broadcom Inc.

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

Following motion #6 from the November 2017 Orlando meeting, the Omega256 interleaver text needs to be added to the draft. The text has been submitted in "han_3ca_1_0518.pdf". The submittred file "han_3ca_2_0518.txt" contains the binary seed code values suitable for making available (similar to the LDPC parity code matrix) via download from an IEEE web site.

SuggestedRemedy

Add the draft text from "han_3ca_1_0518.pdf" beginning with new subclause 142.2.2.5.4.

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.3** *P* **57** *L* **34** # 50

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Why define an abbreviation if you don't use it?

SuggestedRemedy

Change "physical coding sublayers" to "PCS"

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.3.1** *P* **61** *L* **41** # 168

Powell, Bill Nokia

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

Ambiguity in differential encoder figure 142-7 (register input/output vs. Control)

SuggestedRemedy

Proposed change to Figure 142-7 in Red on Slide 3, Section A, of powell_3ca_1_0518

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Per comment. Make sure that "PCS Gearbox" is changed into "PMA" as marked in the contribution with "?"

Cl **142** *SC* **142.3.2** *P* **61** *L* **3** # 169

Powell, Bill Nokia

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

Ambiguity in differential decoder figure 142-8 (register output vs. Control)

SuggestedRemedy

Proposed change to Figure 142-8 in Red on Slide 3, Section B, of powell_3ca_1_0518

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.1** *P* **65** *L* **12** # 51

Remein, Duane Huawei Technologies

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

Is this really true? "It is acceptable for only one MAC to be connected to this MPRS"
Now that we have PLID, MLID and ULIDs it would seem to me that the minimum number of MACs is 3.

SuggestedRemedy

Strike the sentence.

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.1** *P* **65** *L* **15** # 52

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. We have decided not to pursue 100G-EPON using 4x25G. The draft still reflects our earlier thinking that we would support 4x25G as is illustrated here "This concept is expanded in this clause to allow multiple MACs to interface with up to four PHYs requiring up to four 25 Gigabit Media Independent Interfaces (25GMIIs)." The longer we put off fixing this the more difficult it will be to get it correct. I suggest we for the most part adopt a slightly ambiguous wording to the maximum number of 25GMII/PHYS we support in this standard.

SuggestedRemedy

Change from:
"This concept is expanded in this clause to allow multiple MACs to interface with up to four PHYs requiring up to four 25 Gigabit Media Independent Interfaces (25GMIIs)." to
This concept is expanded in this clause to allow multiple MACs to interface with multiple PHYs requiring multiple 25 Gigabit Media Independent Interfaces (25GMIIs)."
pg. 65 Line 46 change from:
"b) The MPRS converts between the MAC serial data stream and the parallel data paths of up to four 25GMIIs servicing separate PHYs." to:
"b) The MPRS converts between the MAC serial data stream and the parallel data paths to multiple 25GMIIs servicing separate PHYs."
pg. 68 line 2 Change from:
"The 100G-EPON MPRS is defined as a set of four parallel MPRS channels in each direction." to:
"The 100G-EPON MPRS is defined as a multiple set of parallel MPRS channels in each direction."
pg. 68 line 8 Change from:
"Compliant implementations are not required to support all four MPRS channels." To:
"Compliant implementations are not required to support multiple MPRS channels."
pg. 68 line 10 strike the sentence that reads:
"An implementation containing all four channels supports 25 Gb/s, 50 Gb/s, and 100 Gb/s MAC data rates."
pg. 68 line 39 change:
"(N = {1,2,3,4}) " to:
"(N = {1,2})"
pg. 70 line 53 strike the sentence that reads:
"Some ONUs may support all four MPRS channels in each direction."
pg. 71 line 37 Change from:
"Thus, a 100G-EPON system with four MPRS channels of 25 Gb/s each can achieve an instantaneous transmission rate of 25, 50, 75, or 100 Gb/s by varying, ..." To:
"Thus, a 100G-EPON system with two MPRS channels of 25 Gb/s each can achieve an instantaneous transmission rate of 25, or 50 Gb/s by varying, ..."
pg. 74 line 50 Change from:
"In addition to the multiple PLS service interfaces (one per MAC) and up to four 25GMIIs" To:
"In addition to the multiple PLS service interfaces (one per MAC) and multiple 25GMIIs"
pg. 75 line 51 Change from:
"However, for other 100G-EPON systems there may be one, two or four PLS service interfaces active at any given time." To:
"However, for other 100G-EPON systems there may be one, or two PLS service interfaces active at any given time."
pg. 85 line 3 strike "(four columns)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert editoral note: Glen and Duane to submit a revision of the whole Clause 143 to address 100G-EPON and other issues.

Cl **143** *SC* **143.1** *P* **65** *L* **18** # 53

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

It appears the abbreviation "PCS" gets defined later in the para.

SuggestedRemedy

Change "PCS" on line 18 to read "Physical Coding Sublayer (PCS)" and on line 20 change "Physical Coding Sublayers (PCS)" to read "PCSs".

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.1** *P* **65** *L* **20** # 54

Remein, Duane Huawei Technologies

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

"The 100G-EPON Physical Coding Sublayers (PCS) are specified to the 25GMII, ..."? Needs to be rephrased.

SuggestedRemedy

Change to read "The 100G-EPON PCSs are specified to interface with the 25GMII, ..."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to read "The Nx25G-EPON PCSs are specified to interface with the 25GMII, ..."

Cl **143** *SC* **143.2.1** *P* **67** *L* **12** # 55

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Missing article "below MAC"

SuggestedRemedy

Change to "below the MAC"

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.2.2.1** *P* **68** *L* **20** # 56

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. Table 143-1 should be pruned to two channels.

SuggestedRemedy

Remove rows DS2, DC3, UC2, and UC3.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.2.3.3** *P* **69** *L* **46** # 57

Remein, Duane Huawei Technologies

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

"the ESH is discarded ..." well there's certainly more to it that a simple discard.

SuggestedRemedy

Change to "the ESH is processed by the MPRS and then discarded..."

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.2.4.2** *P* **72** *L* **1** # 58

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. Figure 143-6, 143-7, 143-8, 143-9, 143-10, 143-11, 143-12, 143-15 need updating to show only two channels.

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.2.4.3** *P* **73** *L* **6** # 59

Remein, Duane Huawei Technologies

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

In referring to the ENV_Tx/Rx buffers is this statement; "The number of rows is set to 32," But in Table 143-4 and on pg. 82 line 16 EnvPam is defined as 6 bits. These should agree, if the ONU uses 6 bits and the OLT only 5 well there's a problem brewing.

SuggestedRemedy

Change to "The number of rows is set to 64," align Fig 143-8 to 64 (may also reduce number of columns due to separate comment).

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **143** *SC* **143.2.4.3** *P* **73** *L* **28** # 60

Remein, Duane — Huawei Technologies

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

We are inconsistent in our reference to the TX_CLK. Fig 143-10 names it TX_CLK25 and shows one per 25GMII. Table 143-2 uses TX_CLK and includes a footnote that all 25GMIIs share a common clock. Section 143.4.1.3 on pg. 78 ln. 39 clearly states that "only one TX_CLK is required". TX_CLK[c] is defined on pg. 82 ln. 46 and implies there is one TX_CLK per channel; "of the TX_CLK signal for channel c".

SuggestedRemedy

In Fig 143-10 pull TX_CLK25 out of the 25GMII grouping to indicate it is a common signal.
When TX_CLK refers to that common signal use TX_CLK25 {(pg., ln.), (73,28), (76,50), (78,39), (82,30), (82,49), (85,5), (88,38), (88,39), and ex in Table 143-2}.
On pg. 82 line 48 remove "for channel c" so the definition reads; "Each TX_CLK[c] clear on read variable is set to True on each edge, positive and negative, of the TX_CLK25 signal."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

==========

Everywhere where TX_CLK25 is used, add "[0-3]" like the other signals (only on Figure 143-10)

Change

Each TX_CLK[c] clear on read variable is set to True on each edge, positive and negative, of the TX_CLK signal for channel c.

To

Each TX_CLK[c] clear on read variable is set to True on each edge, positive and negative, of the TX_CLK25[c] signal for channel c.

==========

NOTE: Waiting for contribution from Glen and Duane after lunch with details

When TX_CLK refers to that common signal use TX_CLK25 {(pg., ln.), (73,28), (76,50), (78,39), (82,30), (82,49), (85,5), (88,38), (88,39), and e.g., in Table 143-2}.

Per comment, excluding changes to Fig 143-10 - please submit a suggestion on what changes need to be really made: "pull TX_CLK25 out of the 25GMII grouping to indicate it is a common signal" is not really clear in the current context.

Cl **143** *SC* **143.2.4.4** *P* **73** *L* **37** # 61

Remein, Duane — Huawei Technologies

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

Clarification.

SuggestedRemedy

Change:
"the EPAM field is extracted and its value is used as the write pointer (row index) ..."
to read:
"the EPAM field is extracted and its value is used to update the write pointer (row index) ..."

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.3.3.2** *P* **101** *L* **44** # 98

Remein, Duane — Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

links dead (3x 144.2.2.3 on this page, and several on pg. 102, 112, 113 and possibly elsewhere)

SuggestedRemedy

make live

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.1.1.1** *P* **77** *L* **3** # 62

Remein, Duane — Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. Table 143-2 and 143-3 should be pruned to two channels.

SuggestedRemedy

Remove row for 100G-EPON

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.1.2** *P* **78** *L* **4** # 63

Remein, Duane Huawei Technologies

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

Incorrect references to Tables 143-3 & 4.

SuggestedRemedy

Add new table per remein_3ca_2_0518.pdf and reference new table.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "(see Table-143–3 and Table-143–4)"

Cl **143** *SC* **143.4.1.2.1** *P* **78** *L* **11** # 64

Remein, Duane Huawei Technologies

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

epam should be in italics
More generally we need to decide if we want to follow this guideline, that variable names appear in italics. As a past editor that did adopt this guideline I found it a royal pain and would not object to not following it (I notice in the standard that few amendments do).

SuggestedRemedy

Italicize "epam"

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.1.2.2** *P* **78** *L* **21** # 65

Remein, Duane Huawei Technologies

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

The MPCP does not need to wait "for the start of next FEC codeword (for envelopes that are expected to be in a separate transmission burst)." the MPCP can start a new envelope at it's discretion.

SuggestedRemedy

Change to "for envelopes that are expected to be in a separate transmission bursts."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **143** *SC* **143.4.1.3** *P* **78** *L* **37** # 66

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

It would be easier on the reader if we just reference the tables rather than the section.

SuggestedRemedy

Change: "143.4.1.1" to "Table 143-2 and Table 143-3"

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.2** *P* **79** *L* **15** # 67

Remein, Duane Huawei Technologies

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

In Fig 143-11 Octet 0 seems to have two extra bits before bit 8 and after bit 15. Also we seem to have lost the EPAM label (TXD-Lane0 in 2nd transfer.

SuggestedRemedy

Trim the line immediately before the 8 and after the 15 so they are short and don't extent top to bottom. Add EPAM label (if using the original visio file it may be hiding behind the white box representing bits 0-5).

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.2** *P* **79** *L* **35** # 68

Remein, Duane Huawei Technologies

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

Wording: "transmission of … the transmitting MPRS"

SuggestedRemedy

Change to "transmission of the envelope from the sending MPRS"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "transmission of
the envelope from the transmitting MPRS to the receiving MPRS" to "transmission of the envelope from the source MPRS to the destination MPRS"

Cl **143** *SC* **143.4.3** *P* **80** *L* **21** # 69

Remein, Duane Huawei Technologies

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

Clarification on what CRC covers in normative table.

SuggestedRemedy

Change "CRC8" to "CRC8 covering bit 0-63"

Response *Response Status* **C**

ACCEPT.

Changes from E to T

Cl **143** *SC* **143.4.3** *P* **80** *L* **44** # 70

Remein, Duane Huawei Technologies

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

This cannot be true as wRow is a 1-bit variable. "(Number of bits matches the size of wRow)". This confusion exists because we use rRow and wRow in both the transmit and receive SDs to mean two different variable sets. In the transmit SD we only need a 1-bit variable while in the receive SD we need a 6-bit variable.

SuggestedRemedy

Align variable name to SD in which it is used so that:
In section 143.4.3 change wRow to iRow (for input row) and rRow to tRow (for transmit row) in text and figures.
In section 143.4.4 change wRow to rRow (for receive row) and rRow to oRow (for output row) in text and figures.
at pg. 80 line 44 Change to "(Number of bits matches the size of rRow)"

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **143** *SC* **143.4.3.2** *P* **81** *L* **9** # 71

Remein, Duane Huawei Technologies

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

I don't believe we have any timers in this section.

SuggestedRemedy

Remove the blurb about time start and stop.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove text page 81, lines 9-12

Cl **143** *SC* **143.4.3.3** *P* **81** *L* **14** # 72

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Does this notation only apply to counters as indicated or does it also apply to other variables?
"The notation ++ after a counter indicates",
"The notation - - after a counter indicates",
"The notation –= after a counter indicates", and
"The notation += after a counter indicates"

SuggestedRemedy

Change to "counter" to "variable" in each instance. (may want to apply this globally)

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.3.4** *P* **81** *L* **53** # 73

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. We no longer have 4 channels

SuggestedRemedy

change to 1-bit integer.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.3.4** *P* **82** *L* **23** # 8

Heaven, Bo Huawei

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

Need exact components of GRANT_MARGIN and its default value or maximum value

SuggestedRemedy

Add "The value includes LaserOnTime, syncTime, and Burst Delimiter that precede the first packet in the burst."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **143** *SC* **143.4.3.4** *P* **82** *L* **36** # 75
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

TYPE mis-aligned

SuggestedRemedy

Indent

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.3.4** *P* **82** *L* **36** # 74
Remein, Duane Huawei Technologies

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

"LinkID[c]" s/b "LinkId[c]" (or alternatively the other way around, now we have both forms).

SuggestedRemedy

Change all instances of "LinkID" to "LinkId"

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.3.4** *P* **83** *L* **2** # 76
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff "For 100 Gb/s devices N = 4, for 50 Gb/s devices N = 2, and for 25 Gb/s devices N = 1."

SuggestedRemedy

Change to: "For 50 Gb/s devices N = 2 and for 25 Gb/s devices N = 1."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.3.4** *P* **83** *L* **7** # 77
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. For wCol change type to 1-bit integer

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.3.5** *P* **83** *L* **44** # 78
Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. EnvStartHeader() section should be updated to reflect only 2 channels

SuggestedRemedy

Change:
if(EnvLeft[col+1] == GRANT_MARGIN &&
EnvLeft[col+2] == GRANT_MARGIN &&
EnvLeft[col+3] == GRANT_MARGIN) EnvPam = epam;
To:
if(EnvLeft[col+1] == GRANT_MARGIN) EnvPam = epam;

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.3.6.1** *P* **85** *L* **2** # 79
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

What is a "start envelope header"

SuggestedRemedy

Change to "envelope start header"

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.3.6.1** *P* **85** *L* **4** # 80

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. "(four columns)"

SuggestedRemedy

Strike.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.3.6.1** *P* **85** *L* **7** # 81

Remein, Duane Huawei Technologies

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

Clarification; "The process adjusts the MAC rate to account for FEC parity insertion in the PCS."

SuggestedRemedy

Change to read: "The process adjusts the MAC rate by inserting PARITY_PLACEHLDR EQs to account for FEC parity insertion in the PCS."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **143** *SC* **143.4.3.6.1** *P* **86** *L* **48** # 82

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Extraneous line extending up into WRITE_EQ_TO_ENV_TX state.

SuggestedRemedy

In the words of the famous Pete Trowbridge "nudge the line" down so it does not interfere with the state box.

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.4** *P* **87** *L* **38** # 83

Remein, Duane Huawei Technologies

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

Errant ref to 143.4.3.6.1

SuggestedRemedy

Change to 143.4.4.5.1

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.4.3** *P* **88** *L* **46** # 84

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. The TYPE for rCol should reflect 2 columns not 4

SuggestedRemedy

change to 1-bit integer.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.4.3** *P* **89** *L* **13** # 85

Remein, Duane Huawei Technologies

Comment Type **TR** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. "For 100 Gb/s devices N = 4, for 50 Gb/s devices N = 2, and for 25 Gb/s devices N = 1."

SuggestedRemedy

Change to: "For 50 Gb/s devices N = 2 and for 25 Gb/s devices N = 1."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #52

Cl **143** *SC* **143.4.4.4** *P* **89** *L* **32** # 86

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

This editorial note has served its purpose; "EDITOR NOTE: the IsHeader() function was originally defined ..."

SuggestedRemedy

Strike note

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.4.4** *P* **89** *L* **34** # 87

Remein, Duane Huawei Technologies

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

IsMisaligned is written for an ordered set header

SuggestedRemedy

Replace function definition with:

```
bool IsMisaligned(EQ eq )
{
   return(( eq<39:36> == 0xF AND   // Mis-aligned INTER_ENV_IDLE
   eq<71:40> == 08080808 )         // … s.b. INTER_ENV_IDLE
   OR
   ( eq<39:36> == 0x8 AND          // Misaligned Env. Header
   eq<47:40> == 0xFB ));           // … s.b. Start Control Code
}
```

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace function definition with:

```
bool IsMisaligned(EQ eq )
{
   return(( eq<39:36> == 0xF AND   // Mis-aligned INTER_ENV_IDLE
   eq<71:40> == 0x08080808 )       // … s.b. INTER_ENV_IDLE
   OR
   ( eq<39:36> == 0x8 AND          // Misaligned Env. Header
   eq<47:40> == 0xFB ));           // … s.b. Start Control Code
}
```

Cl **143** *SC* **143.4.4.4** *P* **90** *L* **17** # 88

Remein, Duane Huawei Technologies

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

The function, SetMacOctet is not defined.

SuggestedRemedy

Add in 143.3.3:
SetMacOctet(link_id, rx_data, data_valid)
This function shifts the eight bits in rx_data to the MAC using the PLS_DATA.indication, along with the data_valid Boolean using the PLD_DATA_VALID.indication to the MAC associated with link_id.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add in 143.3.3:
SetMacOctet(link_id, rx_data, data_valid)
This function shifts eight bits in rx_data to the MAC using the LS_DATA.indication, along with the data_valid Boolean using the PLD_DATA_VALID.indication to the MAC associated with link_id.

Cl **143** *SC* **143.4.4.4** *P* **90** *L* **27** # 89

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

This phrase does not make sense. "due to different ONUs and transport skew,"

SuggestedRemedy

Change to "due to different delay and transport skew for each ONU,"

Response *Response Status* **C**

ACCEPT.

Cl **143** *SC* **143.4.4.5.2** *P* **91** *L* **39** # 90

Remein, Duane Huawei Technologies

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

Clarification to "no subsequent frames are lost due to the error"

SuggestedRemedy

Change to read: "no subsequent frames are lost due to the error since the next envelope continuation header will resynchronize the process for the following frame."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to read: "no subsequent frames are lost due to the error since the next envelope continuation header resynchronizes the process for the following frame."

Cl **143** *SC* **143.4.4.5.2** *P* **92** *L* **33** # 91

Remein, Duane Huawei Technologies

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

What is magical about OutEQ<16> = 1?

SuggestedRemedy

It represents an Envelope Start Header.
Replace OutEQ<16> = 1 with OutEQ<16> = ES_HEADER
Add definition to constants:
ES_HEADER
TYPE: integer
Value: 1
The value of the envelope Start Flag indicating the header is an envelope start header.

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.3.2** *P* **102** *L* **3** # 99

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

"who"? ONUs are not people.

SuggestedRemedy

Change "who may then retry" to "which may then retry"

Response *Response Status* **C**

ACCEPT.

Wrong clause (is 143 and should be 144)

Cl **144** *SC* **144.1.6** *P* **97** *L* **18** # 92

Remein, Duane Huawei Technologies

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

In 10G these were included in the variable definitions. This would be better imho than in conventions.

SuggestedRemedy

Move MACI & MADI definitions to the variable definitions section.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add MACI, MADI, MACR, MADR to abbreviations in Clause 1. Keep existing text in Clause 144 as is.

Cl **144** *SC* **144.3.3** *P* **98** *L* **4** # 93

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

We have a mix of Discovery Window(s) and discovery window(s), we should be consistent.

SuggestedRemedy

Use lower case consistently.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use "Discovery Window" consistently

Wrong clause (is 143 and should be 144)

Cl **144** *SC* **144.3.3** *P* **98** *L* **6** # 94

Remein, Duane Huawei Technologies

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

More likely the end user (SP) "The periodicity of these windows is unspecified and left up to the implementer"

SuggestedRemedy

Strike "and left up to the implementer"

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.3** *P* **98** *L* **30** # 95

Remein, Duane Huawei Technologies

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

We are using EQ to mean both a number of bits (72, 4 control and 64 data) and a time period (2.56ns). Using as a time is ambiguous as it depends on the rate (2.56 ns is only correct at 25GMII which is 36-bits wide) It would be a good idea to explicitly distinguish these two uses.

SuggestedRemedy

Where EQ is referring to a time change to EQt and add to definitions to mean 2.56 ns.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert an editorial note: need to review the use of EQ as the unit of time / size, and decide whether it is EQ, TQ, blocks, etc. in each and single case.

Cl **144** *SC* **144.3.3** *P* **98** *L* **32** # 96

Remein, Duane Huawei Technologies

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

We should be specific on which types of LLIDs are allocated. "the OLT registers the ONU, allocating and assigning a new port identity (LLID), and bonding a corresponding MAC to the LLID."

SuggestedRemedy

Change to: "the OLT registers the ONU, allocating and assigning a new ONU (PLID) and management (MLID) port identities, and bonding a corresponding MACs to the LLIDs."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Wrong clause (is 143 and should be 144)

See comment #2.

Cl **144** *SC* **144.3.3** *P* **98** *L* **33** # 2

Heaven, Bo Huawei

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

LLID looks a not that accurate.

SuggestedRemedy

Change "LLID" to "PLID and MLID"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Type changed from E to T

Change

Upon receipt of a valid REGISTER_REQ MPCPDU, the OLT registers the ONU, allocating and assigning a new port identity (LLID), and bonding a corresponding MAC to the LLID.

To

Upon receipt of a valid REGISTER_REQ MPCPDU, the OLT registers the ONU, allocating and assigning two new port identities (PLID and MLID), and bonding them to corresponding MACs in the OLT.

Cl **144** *SC* **144.3.3** *P* **98** *L* **35** # 97

Remein, Duane Huawei Technologies

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

We now using more than one LLID; "which contains the ONU's LLID"

SuggestedRemedy

Change "LLID" to "LLIDs"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Wrong clause (is 143 and should be 144)

Change

The next step in the process is for the OLT to transmit a REGISTER MPCPDU to the newly discovered ONU, which contains the ONU's LLID, and the OLT's required synchronization time.

To

The next step in the process is for the OLT to transmit a REGISTER MPCPDU containing the PLID and MLID to the newly discovered ONU. The REGISTER MPCPDU also contains the OLT's required synchronization time.

Cl **144** *SC* **144.3.3** *P* **98** *L* **36** # 3

Heaven, Bo Huawei

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

as same as above

SuggestedRemedy

Response *Response Status* **C**

REJECT.

Context is missing

Cl **144** *SC* **144.3.3.2** *P* **102** *L* **13** # 100

Remein, Duane Huawei Technologies

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

The PMD is not turned on and off, the laser in the PMD is.

SuggestedRemedy

Change:
"turning off the PMD" to "turning off the laser" and
"turning on the PMD" to "turning on the laser" (line 20)

Response *Response Status* **C**

ACCEPT.

Wrong clause (is 143 and should be 144)

Cl **144** *SC* **144.3.3.5** *P* **103** *L* **24** # 101

Remein, Duane Huawei Technologies

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

I find neither MAC:MADI nor MAC:MADI in 2.3.2. Same issue pg. 113 and 117.

SuggestedRemedy

spell out the alias so that the definition can be found in the referenced section.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Fixed per comment #92

Cl **144** *SC* **144.3.3.5** *P* **103** *L* **35** # 102

Remein, Duane Huawei Technologies

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

We're using new opcodes for our messages.

SuggestedRemedy

Change names for all Opcodes used (suggest xxx25, so DISCOVERY25). Open 31A and add new opcodes to Table 31A-1.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

These opcodes are specific to Clause 144. If any changes in definitions are needed, they would go into Annex 31A.

Add Annex 31A to the draft, and insert new entries into Table 31A–1, covering new opcodes defined in Clause 144 with appropriate cross references. Update the 00-07 through 01-00 entry to match the range remaining after allocation of new Opcodes for Clause 144 MPCPDUs.

Cl **144** *SC* **144.3.3.5** *P* **106** *L* **44** # 103

Remein, Duane Huawei Technologies

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

OpcodeSpecificFunction does not seem to be used anywhere but it is defined twice; here and on pg. 114.

SuggestedRemedy

Remove both definitions.

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.3.6** *P* **107** *L* **5** # 4

Heaven, Bo Huawei

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

The broadcast LLID of 25G should be defined for distinguishing from 10G's in the case of coexistence with 10GEPON

SuggestedRemedy

Change "0x7FFE" to "0x7FFD"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert Editorial Note with the following text:

LLID domain in .3ca is completely separate from LLID domains in 1G-EPON, 10G-EPON, and EPoC. We do not need to worry about conflict of LLID values.

Reserve the following LLID values:
PLID broadcast = 0x0001
ULID broadcast = 0xFFFF
Special LLID value = 0x0000

Need to make decision on broadcast MLID value.

Cl **144** *SC* **144.3.3.6** *P* **110** *L* **15** # 5

Heaven, Bo Huawei

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

Cannot find the definition of GuardThresholdOLT

SuggestedRemedy

The value of 8EQs for the purpose of promoting the accuracy of upstream will be good to carry realtime service in upstream

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

guardThresholdOLT
This constant holds the maximal amount of drift allowed for a timestamp received at the OLT. This value is measured in units of 1 EQ.
TYPE: integer
VALUE: 8

Cl **144** *SC* **144.3.4.6** *P* **115** *L* **11** # 104

Remein, Duane Huawei Technologies

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

Is there precedence for using a for loop within a state in a SD?

SuggestedRemedy

I could not find any. If it exists I may withdraw this comment.
I suggest splitting the states that use the construct into two. One state would set the variables that don't need the looping and another to set those variable that do need the looping.

Response *Response Status* **C**

REJECT.

Most of the existing SDs in Clause 144 will need to be modified. As part of the work, definition of how messages are parsed will be upodated (simplified) to use concatenation and not extraction of individual fields based on bit positions in the message.

Task for Glen & Marek.

Cl **144** *SC* **144.3.4.6** *P* **115** *L* **47** # 105

Remein, Duane Huawei Technologies

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

"MCI:NADR" s/b "MCI:MADR"

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.5** *P* **116** *L* **3** # 106

Remein, Duane Huawei Technologies

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

We now have multiple transmitters "...arbitrate a single transmitter ..."

SuggestedRemedy

Change to "... arbitrate specific transmitters ..."

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.5** *P* **116** *L* **13** # 107

Remein, Duane Huawei Technologies

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

Should we also concern ourselves with the minimum maximum and maybe median maximums? "The OLT shall not issue more than the maximum supported maximum outstanding grants as advertised by the ONU during registration (see pending grants in 77.3.6.3)."

SuggestedRemedy

Change to: ""The OLT shall not issue to an ONU more outstanding grants than the pending grants parameter advertised during registration (see pending grants in 77.3.6.3)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changed type from E to T

Change to: "The OLT shall not issue to an ONU more outstanding envelope allocations than the pending envelopes parameter advertised during registration (see pending envelopes in 144.xxxx)."

Editorial Note to be added: review the draft for consistency of envelope-related nomenclature.

Cl **144** *SC* **144.3.5** *P* **116** *L* **17** # 108

Remein, Duane Huawei Technologies

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

"In order to maintain the watchdog timer at the ONU, grants are periodically generated." Can they be any grants to any ONU?

SuggestedRemedy

Add to the sentence so it reads: "In order to maintain the watchdog timer at the ONU, grants are periodically generated for that ONU."

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.5.5** *P* **118** *L* **14** # 110

Remein, Duane Huawei Technologies

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

MCC:MACR() missing DA

SuggestedRemedy

Add DA to message.

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.5.5** *P* **118** *L* **14** # 111

Remein, Duane Huawei Technologies

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

The definition of MCC:MACR(DA, GATE …) in 144.36.3.5 states for LLID[7] "Only elements j with non-zero value in associated Length[j] field of the array are used." Similar statements are made for Length, Fragment, etc. However, in the normative SD there is no accommodation for omitting zero length fields.
Same issue in Fig 144-5 ONU GATE Reception Process state diagram pg. 119 and possibly Fig 144-11 (pg. 115), and Fig 144-12 (pg. 115).

SuggestedRemedy

In the SD change the "[7]" for LLID, Length, Fragment and ForceReport to "[n]". In SEND GATE state change for "(i=0;i<7;i++)" to "for (i=0;i<n;i++)".
Add a definition for "n" as the integer number of non-zero value Length(j) fields.

Response *Response Status* **C**

REJECT.

Change the SD to show the entire array of all 7 envelope allocations is passed to the MAC Control Client without being parsed or evaluated in MPCP, per comment #170.

Cl **144** *SC* **144.3.5.6** *P* **117** *L* **31** # 109

Remein, Duane Huawei Technologies

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

MA_CONTROL.request(DA, GATE, ChMap, StartTime, LLID[7], Length[7], Fragment[7], ForceReport[7]) is not defined in 144.3.3.5. Perhaps MCC:MACR(DA, GATE, ChMap, StartTime, LLID[7], Length[7], Fragment[7], ForceReport[7]) is being referred to.

SuggestedRemedy

Change to: MCC:MACR(DA, GATE, ChMap, StartTime, LLID[7], Length[7], Fragment[7], ForceReport[7])

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.7** *P* **122** *L* **2** # 112

Remein, Duane Huawei Technologies

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

We use normative language here for the generic MPCPDU but informative language when describing details of the specific MPCPDUs (except for LLID type and a few other parameters). It would be more precise to use informative language here and normative language with the specifics. This will also make PICs easier as there will only need to be one PICS statement per MPCPDU type rather than multiple requirements (see MP6-16 in Cl 64).

SuggestedRemedy

Change:
"The MPCPDU structure shall be as shown in Figure 144–17, and is further defined as follows:" to read
"The MPCPDU structure is shown in Figure 144–17, with details defined as follows:"

In the opening paras for each MPCPDU type change from:
"The mpcpdu_type MPCPDU is an instantiation of the Generic MPCPDU, and is further defined as follows:" to
"The mpcpdu_type MPCPDU is an instantiation of the Generic MPCPDU and shall be as shown in Figure 144-xx with details defined as follows:"
where mpcpdu_type is one of DISCOVERY GATE, REGISTER_REQ, REGISTER, REGISTER_ACK, GATE, or REPORT and xx is replace with the appropriat figure ref.

Where there is additional normative language in the description change it to be informative. For example sentences such as:
"The mpcpdu_type MPCPDU shall be generated by a MAC Control instance ..."
Change to:
"The mpcpdu_type MPCPDU is generated by a MAC Control instance ..."

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.7** *P* **122** *L* **4** # 113

Remein, Duane Huawei Technologies

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

We now have a specific LLID for MPCP traffic; the PLID. Shouldn't this be reflected in DA and SA?

SuggestedRemedy

Change "port" to "PLID" so this reads:
a) Destination Address (DA). The DA in MPCPDU is the MAC Control Multicast address as specified in the annexes to Clause 31, or the individual MAC address associated with the PLID to which the MPCPDU is destined.
b) Source Address (SA). The SA in MPCPDU is the individual MAC address associated with the PLID through which the MPCPDU is transmitted. For MPCPDUs originating at the OLT end, this can be the address any of the individual MACs. These MACs may all share a single unicast address, as explained in 144.1.2.

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.7** *P* **122** *L* **40** # 114

Remein, Duane Huawei Technologies

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

We've lost all reference to the order in which bits within a field are transmitted.

SuggestedRemedy

In all MPCPDU message figures add the following note: "Octets within the frame are transmitted from top to bottom. Bits within a field or word are transmitted left to right with the leftmost bit within a field being the lsb." The arrow/note to the right of the octet numbering can then be removed.
Note that the label "Octets" should be kept and placed above the rightmost column of numbers.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editorial Note: Duane to investigate byte order in 802.3 and make a proposal for a figure representation and associated text as a comment against D1.1.

Cl **144** *SC* **144.3.7.1** *P* **122** *L* **43** # 115

Remein, Duane Huawei Technologies

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

The order in which we describe MPCPDUs does not follow any logical order. We should first describe discovery & registration then proceed to Gates & Reports. In 1G & 10G Gates included discovery so there was some logic to the order.

SuggestedRemedy

Put MPCPDU descriptions in the following order; DISCOVERY, REGISTER_REQ, REGISTER, REGISTER_ACK, GATE, and REPORT.

Response *Response Status* **C**

REJECT.

The order of definition does not help in any way to understand the use cases - MPCPDUs are referenced throughout the text, and not just here.

Cl **144** *SC* **144.3.7.1** *P* **122** *L* **45** # 170

Kramer, Glen Broadcom

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

Description of GATE message is wrong. Grants with zero length are valid and are used to request a report for a specific LLID without granting that LLID.

Reports are not sent in the associated grants. They are sent in PLID grant.

Transmission overhead components are not included in granted length.

SuggestedRemedy

Replace the text of this subclause with the text provided in the attached file kramer_3ca_3_0518.pdf.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use kramer_3ca_3a_0518.pdf with the following changes
- change "frag" to "flag"
- in figure change "Grant Length" to "Envelope Length"
- "is used as an MPCP keep alive" to "may be used as an MPCP keep alive"

Cl **144** *SC* **144.3.7.1** *P* **124** *L* **22** # 6

Heaven, Bo Huawei

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

Should define a value for invalid LLID used for GATE with less then 7 grants

SuggestedRemedy

Add description such as "The value of invalid LLID is 0"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Resolved by comment #170.

Cl **144** *SC* **144.3.7.1** *P* **124** *L* **24** # 116

Remein, Duane Huawei Technologies

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

"All transmission overhead components (see TBD) are included in and thus consume part of the granted transmission slot." This was reasonable when there was a one-to-one start time and length per grant in a GATE but is it reasonable when there is one start time and multiple grant lengths? Where does the sync pattern time come from, the first grant or the last one or is it equally deducted from each?

SuggestedRemedy

Change to : "Burst transmission overhead components (Start of Burst and End of Burst) are not included in the grant length parameters whereas parity overhead is."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Resolved by comment #170.

Cl **144** *SC* **144.3.7.1** *P* **124** *L* **26** # 7

Heaven, Bo Huawei

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

We can learn that each ENV length of grant does not include FEC overhead and burst overhead from Figure 143-13

SuggestedRemedy

"All transmission overhead components (see TBD) are included in and thus consume part of the granted transmission slot." should be removed

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Resolved by comment #170.

Cl **144** SC **144.3.7.1** P **124** L **27** # 117

Remein, Duane Huawei Technologies

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

Text for Fragmentation flag.

SuggestedRemedy

When this flag is set to 0 the ONU shall not fragment a frame; when set to a 1 fragmentation is allowed within the respective grant.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Resolved by comment #170.

Cl **144** SC **144.3.7.1** P **124** L **29** # 118

Remein, Duane Huawei Technologies

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

FR is normative.

SuggestedRemedy

change:
"no action is required from the ONU" to "the ONU may issue a gratuitous REPORT"
"the ONU should issue a REPORT" to "the ONU shall issue a mandatory REPORT"
At the end of the para add "An ONU must transmit mandatory REPORTs prior to gratuitous REPORTs."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Resolved by comment #170.

Cl **144** SC **144.3.7.1** P **124** L **32** # 119

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Oxymoronic statements have no place in a standard; "This is an empty field that is transmitted as zeroes" If the field has zeroes in it , it cannot be empty.
Same issue at pg. 124 ln. 48, pg. 126 ln. 49, pg. 128 ln. 15, and 129 ln. 20.

SuggestedRemedy

Change to: "This field is transmitted as zeroes"

Response *Response Status* **C**

ACCEPT.

See also comment #170 for text alignment

Cl **144** SC **144.3.7.1** P **124** L **46** # 121

Remein, Duane Huawei Technologies

Comment Type **T** *Comment Status* **A** *100G-EPON*

100G-EPON stuff. Table 144-1 Channel Assignment flags bits 2 & 3 should be reserved.

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT.

Cl **144** SC **144.3.7.2** P **124** L **39** # 120

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

missing article

SuggestedRemedy

Change "- Time stamp" to "- the time stamp"

Response *Response Status* **C**

ACCEPT.

Cl **144** SC **144.3.7.2** P **124** L **46** # 122

Remein, Duane Huawei Technologies

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

Text for b)

SuggestedRemedy

The number of LLIDs in the ONU with non-empty queues.

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.7.2** *P* **124** *L* **47** # 123

Remein, Duane Huawei Technologies

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

Text for c)

SuggestedRemedy

The local time, in units of EQt, at which the REPORT information was collected in the ONU.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Nuke field Report Time + update respective figure (shift remaining fields up)

Cl **144** *SC* **144.3.7.2** *P* **125** *L* **53** # 124

Remein, Duane Huawei Technologies

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

Shouldn't this be the PLID?

SuggestedRemedy

Change "a unicast type of LLID (see TBD)." to "the PLID of the originating ONU."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Per comment + change "instance mapped to an active ONU" to "instance mapped to an ONU"

Cl **144** *SC* **144.3.7.3** *P* **126** *L* **8** # 125

Remein, Duane Huawei Technologies

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

The presentation order of tables and figures seems backwards (low level details are presented before high-level details) and is opposite to that in previous sections.

SuggestedRemedy

Reorder section so Figure 144–20 comes before Table 144–2 & 3. Add reference to Figure 144–20 in the opening para. Edit sections 144.3.7.4, 144.3.7.5, and 144.3.7.6 similarly.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Table and figure placement depends largely on the page flow.

Cl **144** *SC* **144.3.7.3** *P* **126** *L* **22** # 126

Remein, Duane Huawei Technologies

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

Exactly where is Pending Grants configured (which imho implies provisioning).

SuggestedRemedy

Change "configured to buffer" to "capable of buffering"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Per comment + change "Pending Grants" to "Pending Envelopes" in text and associated figure.

Cl **144** *SC* **144.3.7.6** *P* **130** *L* **3** # 127

Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **A** *bucket*

Errant reference to Table 144-1 s/b 144-6

SuggestedRemedy

per comment

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.7.6** *P* **130** *L* **8** # 172

Kramer, Glen Broadcom

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

Both normal GATEs and discovery GATEs are scheduled by the same scheduler. Since normal GATEs have grant length limited to 22 bits, we should apply the same limit to the discovery grant length. This will allow the entire scheduler operate on 22-bit numbers.

SuggestedRemedy

Replace the text "Discovery Grant Length: This 24-bit unsigned field represents the length of the discovery grant,expressed in the units of 1 EQ."

with text "Discovery Grant Length: This 22-bit unsigned field represents the length of the discovery grant, expressed in the units of 1 EQ."
In Figure 14-23, show the two most-significant bits of grant length as reserved.

Response *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.3.7.6** *P* **130** *L* **40** # 9

Dekun, Liu Huawei

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

page 7 and 8 is basically the same, the only difference is that all ONUs calculate the RSSI thresholds thx based on ONUs' typical launch power in page 7, while every ONU calculate the RSSI thresholds thx based on its transmitter TSSI in page 8. Considering that, if the ONU calculates the RSSI thresholds based on its typical launch power or TSSI is only an ONU's inner implementation issue, ONU can decide it by itself. So the current Table 144-6 can cover both the ways in page 7 and page 8. Only some illustration on how ONUs calculates RSSI thresholds is newly needed.

SuggestedRemedy

Add the following text below Table 144-6:
th0, th1, th2 are ONU RSSI thresholds, they can be calculated by ONU based on the following equations:
th0 = TH0 - (ONU_Tx – OLT_Tx)
th1 = TH1 - (ONU_Tx – OLT_Tx)
th2 = TH2 - (ONU_Tx – OLT_Tx)
TH0,TH1 and TH2 are OLT receiver thresholds which are announced by OLT, the unit is in dBm.
OLT_Tx is the OLT transmitter launch power which are announced by OLT, ONU_Tx is the ONU transmitter launch power, the unit of (ONU_Tx – OLT_Tx) is in dB.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following reference: umeda_3ca_1_0518.pdf
- delete ONU Rx_RSSI indication field in Table 144–6
- page 5 from presentation shows changes to DISCOVERY GATE MPCPDU, including ONU RSSI threhold information added as two separate fields into DISCOVERY GATE MPCPDU.

Cl **144** *SC* **144.3.7.7** *P* **131** *L* **1** # 151

Hajduczenia, Marek Charter Communicatio

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

New SYNC_PATTERN MPCPDU is needed to address the need for dynamic configuration of Sync Pattern zones (value and/or duration)

SuggestedRemedy

See hajduczenia_3ca_1_0518.pdf for motivation and hajduczenia_3ca_2_0518.pdf for all changes in Clause 144 needed to accommodate the new mechanism, including new MPCPDU, changes to existing MPCPDUs, state diagrams, and associated text. All changes to the original D1.0 MPCP Clause are marked in red, including strike-throughs where appropriate.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **Abstrac** *SC* **Abstract** *P* **3** *L* **4** # 1

Heaven, Bo Huawei

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

Does 50G/10G include case of 2x25G downstream and 1x10G upstream.

SuggestedRemedy

How about add option of 2x25G downstream and 2 x 10G upstream(50G/20G)

Response *Response Status* **C**

REJECT.

No specific change proposed at this time.