Cl **1**   *SC* **1.4**   *P* **20**   *L* **17**   # 550
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status*   **X**
    Clarify editorial instruction

SuggestedRemedy
    Change "Change definition 1.4.278" to read "Change definition 1.4.278 as shown below"

Proposed Response   *Response Status*   **O**

Cl **1**   *SC* **1.4.129a**   *P* **21**   *L* **7**   # 520
Wey, Jun Shan   ZTE TX

Comment Type   **E**   *Comment Status*   **X**
    From this definition, it is clear that N is either 1 or 2. However, in various places in the draft, examples of N=4 is implied. The document should be made consistent regarding the number of channels.

SuggestedRemedy
    Add the follwing clarification in this definition, or elsewhere as appropriate:
    "Values of N equal to 1 and 2 are normative in this standard. Other values of N are sometimes shown as examples for illustration purpose only."

Proposed Response   *Response Status*   **O**

Cl **1**   *SC* **1.4.244a**   *P* **21**   *L* **11**   # 417
Remein, Duane   Huawei

Comment Type   **TR**   *Comment Status*   **X**
    This definition misses the fact that an envelope is channel specific.

SuggestedRemedy
    Change from:
    "In Multi-Channel Reconciliation Sublayer (MCRS, see Clause 143), an envelope encapsulates data belonging to a specific LLID, i.e., the data or idles sourced from a specific MAC instance." to:
    "In Multi-Channel Reconciliation Sublayer (MCRS, see Clause 143), an envelope encapsulates data belonging to a specific LLID being transmitted on a specific MCRS channel, i.e., the data or idles sourced from a specific MAC instance and sent over a specific MCRS channel."

Proposed Response   *Response Status*   **O**

Cl **1**   *SC* **1.4.244b**   *P* **21**   *L* **16**   # 552
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status*   **X**
    There are only two added definitions that do not start with a complete sentence.

SuggestedRemedy
    Change "a transmission window allocated to a single LLID (including GLID)" to "In Clause 143, an envelope allocation represents a transmission window allocated to a single LLID (including GLID)"

Proposed Response   *Response Status*   **O**

Cl **1**   *SC* **1.4.313**   *P* **20**   *L* **31**   # 551
Hajduczenia, Marek   Charter Communicatio

Comment Type   **T**   *Comment Status*   **X**
    Clarification on what "it" means in the context

SuggestedRemedy
    Change "it is also a collective term" to "an LLI is also a collective term"

Proposed Response   *Response Status*   **O**

Cl **1**   *SC* **1.4.333a**   *P* **21**   *L* **26**   # 553
Hajduczenia, Marek   Charter Communicatio

Comment Type   **TR**   *Comment Status*   **X**
    MPRS is no more - need to align the terminology

SuggestedRemedy
    Change "multi-point RS" to "Multi-Channel RS (MCRS)"

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **1**
SC **1.4.333a**

Page 1 of 32
8/28/2018 6:40:13 AM

Cl **1**   *SC* **1.4.333a**   *P* **21**   *L* **26**   # 554

Hajduczenia, Marek   Charter Communicatio

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

There are only two added definitions that do not start with a complete sentence.

SuggestedRemedy

Change "one of a number of defined paths" to "In Clause 143, an MCRS channel represents one of a number of defined paths"
Strike "(see Clause 143)" at the end of the definition

Proposed Response   *Response Status* **O**

Cl **31A**   *SC* **31A**   *P* **22**   *L* **8**   # 418

Remein, Duane   Huawei

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

In multiple places the term "modify" is used in editors instructions. No doubt someone in the WG will point out that the term "change" is preferred per the WG Template.

SuggestedRemedy

Change all instances of "modify" to "change" in editing instructions now.

Proposed Response   *Response Status* **O**

Cl **56**   *SC* **56.1**   *P* **25**   *L* **13**   # 518

Powell, Bill   Nokia

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

The current Figure reference for Nx25G EPON is Figure 56-5 (end of first paragraph of Clause 56.1 and figure labeled 56-5a on the next page). However, Figure 56-5 is used for the EPoC architecture.

SuggestedRemedy

Change the figure reference in this paragraph and the current Nx25G EPON figure on the next page to Figure number 56-6.

OR, if use of Fig. 56-5a is intentional for Nx25G EPON, at least change the reference to the Nx25G EPON figure (currently Fig. 56-5 in CL 56.1) to also reference Fig. 56-5a.

Proposed Response   *Response Status* **O**

Cl **56**   *SC* **56.1**   *P* **25**   *L* **13**   # 521

Wey, Jun Shan   ZTE TX

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

"…Figure 56-5 for Nx25G-EPON topologies." should be Figure 56-5a.

SuggestedRemedy

"…Figure 56-5a for Nx25G-EPON topologies."

Proposed Response   *Response Status* **O**

Cl **56**   *SC* **56.1.2.1**   *P* **27**   *L* **6**   # 519

Powell, Bill   Nokia

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

This clause is called "Multipoint MAC Control Protocol (MPCP)." However we have now added Nx25G EPON to this clause, which refers to MPMC in Fig. 5a and several places in CL 144, which still define MPMC as "Multipoint MAC Control."

SuggestedRemedy

Possible solutions:
(1) Change the title of CL56.1.2.1 to "Multipoint MAC Control (MPCP & MPMC)
  OR
(2) Create a new subclause 56.1.2.1a (insert between current 56.1.2.1 & 56.1.2.2) to describe Nx25G EPON's use of MPMC. Also move the Nx25G EPON text in both paragraphs of 56.1.2.1 to the new clause.

After group discussion, if the TF doesn't have a strong opinion toward the second option, I recommend the frist option above.

Proposed Response   *Response Status* **O**

Cl **56**   *SC* **56.1.3**   *P* **27**   *L* **36**   # 545

Kramer, Glen   Broadcom

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

Per accepted PMD naming convention (see slide 17, kramer_3ca_4a_0518.pdf), the upstream PMD rate is only shown for the asymetric PMDs.

SuggestedRemedy

Replace all occurences of 25G/25GBASE-PQ… and 50G/10GBASE-PQ... with 25GBASE-PQ… and 50GBASE-PQ

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **56**
SC **56.1.3**

Page 2 of 32
8/28/2018 6:40:13 AM

Cl **56**   *SC* **56.1.3**   *P* **28**   *L* **1**   # 419
Remein, Duane   Huawei

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

Previous entries in this table list OLT first and then ONU. We should be consistent with that ordering.

SuggestedRemedy

List OLT then ONU, keep rate order as is (i.e., 25/10G..D, 25/10G..U, 25/25G..D, 25/25G..U, 50/10..D, 50/10G..U, …)

Proposed Response   *Response Status* **O**

Cl **56**   *SC* **56.1.3**   *P* **29**   *L* **26**   # 420
Remein, Duane   Huawei

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

This para is incorrect (we don't use 25GBASE_R signaling at all).

SuggestedRemedy

Change from:
"Additionally, EFM introduces a family of Physical Layer signaling systems which are derived from 25GBASE–R, but which include RS, PCS and PMA sublayers adapted for Nx25G-EPON, along with a mandatory FEC capability, as defined in Clause 142. All of these systems employ the PMD defined in Clause 141. The family of P2MP Physical Layer signaling systems utilizes exclusively 25GBASE-R signaling for the downstream and upstream directions, supporting the following series of PMD combinations:" to
"Additionally, EFM introduces a family of P2MP Physical Layer signaling systems derived from 25GBASE–R, referred to as 25GBASE-PQ, which include an RS (Clause 143), PCS and PMA sublayers with a mandatory FEC capability (Clause 142) adapted for Nx25G-EPON. The family of P2MP systems utilizes 25GBASE-PQ signaling for the downstream and upstream directions. All 25GBASE-PQ systems employ the PMDs defined in Clause 141 and support the following series of PMD combinations:

Proposed Response   *Response Status* **O**

Cl **56**   *SC* **56.1.3**   *P* **29**   *L* **27**   # 555
Hajduczenia, Marek   Charter Communicatio

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

Avoid listing PMDs over and over again in multiple locations in the standard.

SuggestedRemedy

Change "The family of P2MP Physical Layer signaling systems utilizes exclusively 25GBASE-R
signaling for the downstream and upstream directions, supporting the following series of PMD
combinations:
a) <TBD, list of PMDs to be filled in, once we know what combinations are supported when PMD
tables get filled in>."

to read

"The family of P2MP Physical Layer signaling systems utilizes exclusively 25GBASE-R signaling for the downstream and upstream directions, supporting a series of PMD combinations as defined in Table 141-6." Make sure the link is live

Proposed Response   *Response Status* **O**

Cl **56**   *SC* **56.1.3**   *P* **29**   *L* **33**   # 421
Remein, Duane   Huawei

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

This was just stated in the previous sentences.

SuggestedRemedy

Strike: "All Nx25G-EPON PMDs are defined in Clause 141."

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141**   *P* **34**   *L* **1**   # 556
Hajduczenia, Marek   Charter Communicatio

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

Do not break EPON name across lines

SuggestedRemedy

Insert forced line break before Nx25G-EPON

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141**

Page 3 of 32
8/28/2018 6:40:13 AM

Cl **141**   *SC* **141.1**   *P* **34**   *L* **8**   # 557

Hajduczenia, Marek   Charter Communicatio

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

Aggregate line rate - what is this new animal?

SuggestedRemedy

There are 4 instances in the whole draft, all in intro text in Clause 141. It is likely that MAC rate is implied (since it is in bps and not Bd) and also implied aggregate throughput. Change all instances of "an aggregate line rate" with "a MAC rate"
Change "All Nx25G-EPON PMDs operating in the downstream direction at 50 Gb/s are collectively referred to as 50G-EPON PMDs while those operating at a maximum rate of 25 Gb/s in the downstream direction are referred to as 25G-EPON PMDs." to "All Nx25G-EPON PMDs operating in the downstream direction at the MAC rate of 50 Gb/s are collectively referred to as 50G-EPON PMDs while Nx25G-EPON PMDs operating in the downstream direction at the MAC rate of 25 Gb/s are referred to as 25G-EPON PMDs." to align terminology and the text flow better

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.1.3**   *P* **34**   *L* **26**   # 422

Remein, Duane   Huawei

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

We seem to have two sections on power budgets 141.1.3 "Power budget classes", here and another at 141.2.5."PMD power classes" that both say essentially the same thing.

SuggestedRemedy

Strike 141.1.3

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.1.4**   *P* **34**   *L* **36**   # 424

Remein, Duane   Huawei

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

We have a good mix of "PHY Link Types", "PHY Link types", "PHY link types" and "PQ PHY link types". Consistency would be better.

SuggestedRemedy

Use "PHY link type" consistently.

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.1.4**   *P* **34**   *L* **36**   # 423

Remein, Duane   Huawei

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

This clause has no text. It also seems to be misplaced and should be part of 141.2 PMD Nomenclature.

SuggestedRemedy

Move under section 141.2 as 141.2.2 (see Ed comment on pg 37 line 141.2 line 15) and add the following:
The Nx25G-EPON PHYs are supported by the Link Types specified in Table 141-1 through 141-5.

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.1.4**   *P* **34**   *L* **37**   # 558

Hajduczenia, Marek   Charter Communicatio

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

Missing text

SuggestedRemedy

Add the following text into 141.1.4 (and make sure sure all links are live): "Table 141-1 through Table 141-5 show all the PHY link types supported by Nx25G-EPON architecture."

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.2**   *P* **37**   *L* **15**   # 425

Remein, Duane   Huawei

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

This section seems to go from detailed information to generalized information. It seems better to introduce the topic of nomenclature first before going into details.

SuggestedRemedy

Under 141.2 add the following text:
Nx25G-EPON PMDs are classified based on PHY link type (see 141.2.1) which is specified by rate (both upstream and downstream), wavelength, channel insertion loss and coexistence technology. PMD names are determined by PHY link type, direction, signaling scheme, protocol, line code and optical power budget as summarized in 141.2.2.
{note the ref to 141.2.2 assumes that 141.1.6 is moved to 141.2.2}
Move section 141.1.4 "PHY Link Types" and Tables 141-1 thru 141-5 to 141.2.1.
Move section 141.2.6 "PMD naming" to 141.2.2 and renumber the remaining sections.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 4 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **141.2**   8/28/2018 6:40:13 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.2.2**   *P* **37**   *L* **28**   # 559

Hajduczenia, Marek   Charter Communicatio

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

Always avoid the use of "always" unless describing unavoidable situations

SuggestedRemedy

Strike all instances of "always" in 141.2.2

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.2.3**   *P* **37**   *L* **36**   # 560

Hajduczenia, Marek   Charter Communicatio

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

Unclear what the purpose of the qualitifier is "previously existing"

SuggestedRemedy

Strike "previously existing" - there are many more previously existing technologies

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.2.5**   *P* **37**   *L* **48**   # 561

Hajduczenia, Marek   Charter Communicatio

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

Repetition of text from 141.1.3

SuggestedRemedy

Change "Nx25G-EPON PMDs defined in this clause are defined as one of two power classes; a medium or a high
power budget class" to "Nx25G-EPON PMDs defined in this clause are defined as one of two power classes; a medium or a high
power budget class, defined in 141.1.3." - make link live. Strike "A medium PMD power class supports a P2MP media channel insertion loss of ≤ 24 dB
e.g., a PON 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. A high PMD power class supports a P2MP media channel
insertion loss of ≤ 29 dB e.g., a PON with the split ratio of at least 1:32 and the distance of at least 20 km."

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.2.5**   *P* **37**   *L* **52**   # 522

Wey, Jun Shan   ZTE TX

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

Typo "din"

SuggestedRemedy

"in"

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.2.5**   *P* **37**   *L* **52**   # 426

Remein, Duane   Huawei

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

typo "indicate din" should be "indicated in"

SuggestedRemedy

per comment

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.2.6**   *P* **38**   *L* **6**   # 563

Hajduczenia, Marek   Charter Communicatio

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

Descriptions would be more legible if placed into a structured table

SuggestedRemedy

Replace content of 141.2.6 with hajduczenia_3ca_1_0918.pdf

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.2.6**   *P* **38**   *L* **11**   # 562

Hajduczenia, Marek   Charter Communicatio

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

"If r1 is equal to r2 (i.e., symmetric PMDs) r2 is omitted" is not true anymore based on discussion at the last meeting

SuggestedRemedy

Strike the line

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.2.6**

Page 5 of 32
8/28/2018 6:40:13 AM

Cl **141**	*SC* **141.2.6**	*P* **38**	*L* **27**	# 427

Remein, Duane   Huawei

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

Change "coexist" to "coexistence"

SuggestedRemedy

per comment

Proposed Response   *Response Status* **O**

Cl **141**	*SC* **141.2.7**	*P* **38**	*L* **45**	# 564

Hajduczenia, Marek   Charter Communicatio

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

There is very little in the way of description in this subclause: "This subclause describes how"

SuggestedRemedy

Change to "Table 141-6 shows how"

Proposed Response   *Response Status* **O**

Cl **141**	*SC* **141.2.7**	*P* **39**	*L* **2**	# 428

Remein, Duane   Huawei

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

There is no reference to Table 141–6. It is unclear to me what this table adds that is not included in other tables.

SuggestedRemedy

Either remove the table to add introductory text and reference.

Proposed Response   *Response Status* **O**

Cl **141**	*SC* **141.2.7**	*P* **39**	*L* **43**	# 430

Remein, Duane   Huawei

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

We've used the term "power budget" quite a bit up to this point. In this context the term is more encompassing that in previous uses.

SuggestedRemedy

Change:
"The power budget is determined" to:
"The end-to-end power budget is determined"

Proposed Response   *Response Status* **O**

Cl **141**	*SC* **141.2.7.1**	*P* **39**	*L* **31**	# 429

Remein, Duane   Huawei

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

This description of table 141-7 appears to be incorrect as the table includes asymmetric and symmetric PMDs.

SuggestedRemedy

Change:
"Table 141–7 illustrates recommended pairings of symmetric-rate ONU PMDs with symmetric-rate OLT PMDs to achieve the power budgets as shown in Table 141–1 through Table 141–5." to
"Table 141–7 illustrates recommended pairings of OLT PMDs with ONU PMDs to achieve the medium power budgets as shown in Table 141–1 through Table 141–5."

Proposed Response   *Response Status* **O**

Cl **141**	*SC* **141.2.7.1**	*P* **39**	*L* **31**	# 565

Hajduczenia, Marek   Charter Communicatio

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

"symmetric-rate ONU PMDs with symmetric-rate OLT PMDs" - there are now both symmetric and asymmetric PMDs shown

SuggestedRemedy

Change to "ONU PMDs with OLT PMDs", same change on page 40, line 3

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.2.7.1**

Page 6 of 32
8/28/2018 6:40:13 AM

Cl **141**   *SC* **141.2.7.2**   *P* **40**   *L* **3**   # 431

Remein, Duane   Huawei

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

This description of table 141-8 appears to be incorrect as the table includes asymmetric and symmetric PMDs.

SuggestedRemedy

Change:
"Table 141–8 illustrates recommended pairings of asymmetric-rate ONU PMDs with asymmetric-rate OLT PMDs to achieve the power budgets as shown in Table 141–1 through Table 141–5." to
"Table 141–8 illustrates recommended pairings of OLT PMDs with ONU PMDs to achieve the power budgets as shown in Table 141–1 through Table 141–5."

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3**   *P* **40**   *L* **30**   # 432

Remein, Duane   Huawei

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

We have a good mix of "PQ-type PMD", "PQ type PMD", and "PQ compliant". Consistency would be better.

SuggestedRemedy

For "PQ-type PMD" and "PQ type PMD" use "Nx25G-EPON PMD"
For "A PQ compliant" use "An Nx25G-EPON compliant"

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.1**   *P* **40**   *L* **38**   # 433

Remein, Duane   Huawei

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

The following statement is incorrect "representing 256B/257B blocks,". The stream of bits is not composed solely of 256B/257B blocks but includes Parity, IBI, SP, and EOB delimiter all of which are not 256B/257B encoded.

SuggestedRemedy

Strike the statement.

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.1.1**   *P* **40**   *L* **51**   # 434

Remein, Duane   Huawei

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

Delay constraints. In previous generations of EPON delay was constrained over the entire RS-PMA chain (see below). We now have separate sections for RS and PCS/PMA and need to distribute the total allowed delay variation with some going to RS and the rest to the PCS/PMA.
"76.1.2 Delay constraints
The MPCP relies on strict timing based on the distribution of timestamps. The actual delay is implementation dependent but an implementation shall maintain a combined delay variation through RS, PCS, and PMA sublayers of no more than 1 time_quantum (see 77.2.2.1) so as not to interfere with the MPCP timing."

SuggestedRemedy

In 141.3.1.1 and 142.1.2 replace the {TBD} with the following and change section 143.4.3 to read:
"The MPCP relies on strict timing based on the distribution of timestamps. The actual total delay is implementation dependent but an implementation shall maintain a delay variation as summarized in Table 144-TBD. Implementations shall declare the expected total delay for each direction as specified in {cl 45 ref}."

In 144.3.1.2 change:
"The actual delay is implementation dependent; however, a complying implementation shall maintain a delay variation of no more than <TBD EQs> through the MAC." to read:
"The actual delay is implementation dependent; however, a complying implementation shall maintain a delay variation in accordance with Table 144-x."

Table 144-x Delay variation allocation in Nx25G-EPON

Layer/Sub-layer	Allowed Delay variation (EQT)
MCRS	1
Nx25G-EPON PCS/PMA	2
Nx25G-EPON PMD	1
MAC to PHY(1)	4
PHY(2)	3

Notes:
1) Total delay variation for an Nx25G-EPON implementation covering both MAC and PHY layers.
2) Total delay variation for an Nx25G-EPON implementation including PCS, PMA and PMD.
3) Total expected delay is declared as specified in {Cl 45 PMA/PMD Ref} and {Cl 45 PCS Ref}. Implementations which combine MCRS, PCS, PMA and PMD may use either one or both of these mechanisms.

Editors Note: we will need to determine how to declare MCRS total delay which may affect Table 144-x"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.3.1.1**

Page 7 of 32
8/28/2018 6:40:13 AM

Cl **141**   *SC* **141.3.1.2**   *P* **41**   *L* **2**   # 435
Remein, Duane   Huawei

Comment Type   **ER**   *Comment Status*   **X**
There are 9 instances of "Clause 142 PMA" (2 of which have some hidden character between the "C" and "l"). Most readers will not know what the "Clause 142 PMA" is and thusthe statement is unhelpful to them. The link to the top of clause 142 is also not helpful, as it is 26 pages away from the PMA section of interest.

SuggestedRemedy
Change all instances of
"Clause 142 PMA" (including those with hidden characters) to
"Nx25G-EPON PMA (see 142.3)"

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.3.1.2**   *P* **41**   *L* **8**   # 436
Remein, Duane   Huawei

Comment Type   **E**   *Comment Status*   **X**
These two sentences are a bit wordy, not to mention incorrect, and can be improved;

SuggestedRemedy
Change:
"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." to
"The Nx25G PMA (see 142.3) 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 or at a nominal signaling speed of 10.3125 GBd in the case of 25/10G-EPON and 50/10G–EPON ONU PMDs."

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.3.1.4**   *P* **41**   *L* **19**   # 437
Remein, Duane   Huawei

Comment Type   **E**   *Comment Status*   **X**
The wording of this sentence can be improved.

SuggestedRemedy
Change:
"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." to
"The PMD continuously sends a stream of bits to theNx25G-EPON PMA (see 142.3) 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 at the nominal signaling speed of 10.3125 GBd in the case of 25/10G–EPON and 50/10G-EPON OLT PMDs."

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.3.1.4**   *P* **41**   *L* **28**   # 438
Remein, Duane   Huawei

Comment Type   **ER**   *Comment Status*   **X**
This phrase "Clause 142 PCS" is unhelpful to most readers, who will not know what the "Clause 142 PCS" is.

SuggestedRemedy
Change to" Nx25G-EPON PCS"

Proposed Response   *Response Status*   **O**

Cl **141**   *SC* **141.3.1.5**   *P* **41**   *L* **41**   # 439
Remein, Duane   Huawei

Comment Type   **E**   *Comment Status*   **X**
the term PMD_UNITDATA[
i].indication(rx_bit) should not break the line.

SuggestedRemedy
make the term non-breaking {Esc n s}.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line
Cl **141**
SC **141.3.1.5**   Page 8 of 32
8/28/2018 6:40:13 AM

Cl **141**   *SC* **141.3.1.5**   *P* **41**   *L* **46**   # 566
Hajduczenia, Marek   Charter Communicatio

Comment Type **E**   *Comment Status* **X**
   Wrong format for NOTE

SuggestedRemedy
   Apply proper style for NOTE

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.2**   *P* **42**   *L* **1**   # 567
Hajduczenia, Marek   Charter Communicatio

Comment Type **T**   *Comment Status* **X**
   Since now some of the test points are channels specific (as indicated by [i]), we cannot say
   "test points TP1[i] through TP4[i]" - that implies all of them are indexed and they are not.

SuggestedRemedy
   Change "TP1[i] through TP4[i]" to "TP1[i], TP2, TP3, and TP4[i]" globally
   Change "TP5[i] through TP8[i]" to "TP5[i], TP6, TP7, and TP8[i]" globally

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.2**   *P* **42**   *L* **4**   # 440
Remein, Duane   Huawei

Comment Type **E**   *Comment Status* **X**
   "defined on per channel basis" missing "a"

SuggestedRemedy
   change to "defined on a per channel basis"

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.2**   *P* **42**   *L* **7**   # 568
Hajduczenia, Marek   Charter Communicatio

Comment Type **T**   *Comment Status* **X**
   Wrong reference: 141.8 is labelling, safety, etc

SuggestedRemedy
   Change 141.8 to 141.7 (that is where all tests are defined) - two instances

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.2**   *P* **42**   *L* **47**   # 441
Remein, Duane   Huawei

Comment Type **TR**   *Comment Status* **X**
   This figure seems to be lacking quite a bit to be called an "Nx25G-EPON block diagram"

SuggestedRemedy
   Change title to "Nx25G-EPON PMD test points"

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.5.1**   *P* **43**   *L* **18**   # 442
Remein, Duane   Huawei

Comment Type **E**   *Comment Status* **X**
   Section 141.3.5.1 uses the statement "The ONU PMD receiver is not required …" whereas
   section 141.3.5.2 uses the wording "The PQ-type PMD receiver is not required …" These
   should be aligned

SuggestedRemedy
   Change 141.3.5.1 to:
    "The ONU Nx25G-EPON PMD receiver is not required ..."
   Change 141.3.5.2 to:
    "The OLT Nx25G-EPON PMD receiver is not required ..."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.3.5.1**

Page 9 of 32
8/28/2018 6:40:13 AM

Cl **141**   *SC* **141.3.5.3**   *P* **43**   *L* **31**   *#* 443
Remein, Duane   Huawei

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

Seems like excessive sub-division; ONU PMD signal detect, OLT PMD signal detect, and Nx25G-EPON Signal detect functions.

SuggestedRemedy

Strike the subclause title "141.3.5.3 Nx25G-EPON Signal detect functions" and move the section content under 141.3.5 PMD signal detect function

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.3.5.3**   *P* **43**   *L* **38**   *#* 569
Hajduczenia, Marek   Charter Communicatio

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

Table 141-9 contains TBD references

SuggestedRemedy

Change
Average input optical power <= Signal Detect Threshold (min) in Table {TBD} at the specified receiver wavelength
to
Average input optical power <= Signal Detect Threshold (min) in Table 141–14 or Table 141–15 at the specified receiver wavelength, as applicable

Change
Average input optical power >= Receive sensitivity (max) in Table {TBD} with a compliant signal input at the specified receiver wavelength
to
Average input optical power >= Receive sensitivity (max) in Table 141–14 or Table 141–15 with a compliant signal input at the specified receiver wavelength, as applicable

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.5.**   *P* **44**   *L* **27**   *#* 444
Remein, Duane   Huawei

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

There is no definition of what is considered "The operating range" in this para and at line 49. Presumable this means reach and split but that is not mentioned anywhere. Does it also extend to wavelength and line rate? If so then it is OK per the following statement to operate at any wavelength and rate "A transceiver which exceeds the operational range requirement while meeting all other optical specifications is considered compliant."
Note that in Cl 60 the term range was used in Table 60-1 instead of reach in the reference table so there was a minimal connection to phrasing.

SuggestedRemedy

Change in both cases:
"The operating ranges … " to: "The maximum reach … "

and change:
"… exceeds the operational range requirement ..." to "… exceeds the operational reach requirement ..."

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.5.1**   *P* **44**   *L* **34**   *#* 570
Hajduczenia, Marek   Charter Communicatio

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

Tables are not displayed within the associated subclauses

SuggestedRemedy

Force Table 141–12 and Table 141–13 to follow 141.5.1 Transmitter optical specifications
Force Table 141–14 and Table 141–15 to follow 141.5.2 Receiver optical specifications
Similar changes needed in 141.6.1 Transmitter optical specifications and 141.6.2 Receiver optical specifications

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.6**   *P* **44**   *L* **46**   *#* 445
Remein, Duane   Huawei

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

As near as I can tell there are no specifications in 141.2.

SuggestedRemedy

Strike ", as specified in 141.2"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.6**

Page 10 of 32
8/28/2018 6:40:13 AM

Cl **141**   *SC* **141.6**   *P* **45**   *L* **39**   # 516

Harstead, Ed   Nokia

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

Table 141-12, footnote (b): "This value is informative only." is ambiguous. "This" could mean the 2 dB, or it could be the same "this" in the previous sentence-- which refers to normative values in the body of the table. Same concern in Tables 141-13, -16, and -17.

SuggestedRemedy

Reword, for example, "For reference, this implies that the minimum average launch power per channel at minimum extinction ratio and
maximum TDP is 2 dBm (informative)."

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.6.2**   *P* **45**   *L* **52**   # 447

Remein, Duane   Huawei

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

Unhelpful link with unhelpful text "Clause 141 ONU PMDs,"

SuggestedRemedy

Change to "Nx25G-EPON ONU PMDs,"

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.6.2**   *P* **45**   *L* **52**   # 446

Remein, Duane   Huawei

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

No PMDs are "(as specified in 141.2)"

SuggestedRemedy

Strike the parenthetical.

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.6.2**   *P* **45**   *L* **54**   # 524

Wey, Jun Shan   ZTE TX

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

Table 141-10 is for the downstream wavelength, not for ONU PMD.

SuggestedRemedy

Change to Tables 141-18 and 141-19

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.6.2**   *P* **46**   *L* **44**   # 527

Wey, Jun Shan   ZTE TX

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

Table 141-10 in this and the next paragraphs need to be replaced by the correct reference.

SuggestedRemedy

Change to Tables 141-18 and 141-19

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.7.13**   *P* **54**   *L* **10**   # 448

Remein, Duane   Huawei

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

Incomplete sentences.

SuggestedRemedy

Change (4x in this section)
", value is less than 128 ns …" to
" and has a value of less than 128 ns …"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.7.13**

Page 11 of 32
8/28/2018 6:40:13 AM

Cl **141**   *SC* **141.7.13**   *P* **54**   *L* **11**   # 517
Harstead, Ed   Nokia

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

Table 141–16 and 141–17 specify Turn-on time (max) and Turn-off time (max) to be 128 ns. Which means 128 ns is an acceptable value. The text in 141.7.13 says they must be "less than 128 ns", which means 128 ns is not an acceptable value.

SuggestedRemedy

Reword text to indicate 128 ns maximum. Or, delete values here since they are already captured in the table.

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.7.13**   *P* **54**   *L* **12**   # 449
Remein, Duane   Huawei

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

"Treceiver_settling is defined in 141.7.13.2 (informative), value is less than ..." How can a normative parameter be defined in and informative subclause?

SuggestedRemedy

Change to read "A technique for measuring Treceiver_settling is illustrated in 141.7.13.2 (informative) and has a value of less than ...

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.7.13.1**   *P* **54**   *L* **26**   # 571
Hajduczenia, Marek   Charter Communicatio

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

Stray T in "as defined in TT able 141–16"

SuggestedRemedy

Remove the green "T"

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **141.7.13.2**   *P* **54**   *L* **36**   # 572
Hajduczenia, Marek   Charter Communicatio

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

"The test setup for measuring Ton and Toff is described in Figure 141–4." -figure does not describe really anything.

SuggestedRemedy

Change "described in Figure 141–4" to "shown in Figure 141–4"

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **Table 141-12**   *P* **45**   *L* **23**   # 523
Wey, Jun Shan   ZTE TX

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

The unit of extinction ratio should be "dB"

SuggestedRemedy

"for extinction ratio >= 9 dB
for extinction ratio < 9 dB"

Proposed Response   *Response Status* **O**

Cl **141**   *SC* **Table 141-13**   *P* **46**   *L* **24**   # 525
Wey, Jun Shan   ZTE TX

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

The unit of extinction ratio should be "dB"

SuggestedRemedy

"for extinction ratio >= 9 dB
for extinction ratio < 9 dB"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 12 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **Table 141-13**   8/28/2018 6:40:13 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **Tables 141-12, 141-13,**   *P* **45**   *L*   # 526
Wey, Jun Shan   ZTE TX

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

The upperbound TDP values in footnote (a) in Tables 141-12, 141-13, 141-16,and 141-17 are inconsistent. In Table 141-13, the footnote states TDP< 0 dB, while in the other tables, it's TDP< 0.5 dB.

SuggestedRemedy

Make the appropriate correction

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.2**   *P* **65**   *L* **18**   # 450
Remein, Duane   Huawei

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

Proposed resolution to Editor's Note

SuggestedRemedy

See remein_3ca_1_0918.pdf

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.2**   *P* **65**   *L* **18**   # 451
Remein, Duane   Huawei

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

Figure and text on transmit bit ordering missing.

SuggestedRemedy

Add the following text at the end of the section (142.2 in remein_3ca_1_0918):
As shown in {Figure 142-5} the PCS transmitter first inputs two transfers from the xMII and consolidates these into a single 64-bit vector which is encoded into a 64B/66B vector. Four 66-bit vectors are accumulated, scrambled, and transcoded into a 257-bit vector which is transferred to the INPUT_FIFO and also copied to the FEC encoder. Data is transferred to the TX_FIFO, along with framing information (see {142.2.5.4.2}) by the PCS Framer process. The PCS Transmit process transfers all information bits to the PMA. The Nx25G-EPON PCS shall transmit bits in the order shown in {Figure 142-5}.

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.2.1**   *P* **65**   *L* **26**   # 452
Remein, Duane   Huawei

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

We are very inconsistent in capitalizing process when referring to a SD. We should pick one.

SuggestedRemedy

use lower case in all instances (that way the editor does not have to pick and choose in which of the >150 cases to use which case).

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.2.1.2**   *P* **65**   *L* **51**   # 547
Kramer, Glen   Broadcom

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

In table 142-1, the value for /IBI/ is the same as the value for /RA/.

SuggestedRemedy

1) Change xMII control code and Nx25GBASE-PQ control code for /IBI/ to 0x0A (to match definition in 142.2.2.5.1)
2) Insert hyphen after "Inter" in Inter Envelope Idle and Inter Burst Idle.

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.2.1.2**   *P* **65**   *L* **54**   # 453
Remein, Duane   Huawei

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

CC /IBI/ should not be the same as /RA/

SuggestedRemedy

Change xMII and Nx25GBASE-PQ IBI control codes to 0x0A

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**
SC **142.2.2.1.2**

Page 13 of 32
8/28/2018 6:40:13 AM

Cl **142**   *SC* **142.2.2.2**   *P* **67**   *L* **3**   # 454
Remein, Duane   Huawei

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

Typo "input" should be capitalized in "Once the complete SBD is appended to the TX_FIFO the input process begins transferring"

SuggestedRemedy

per comment

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.2**   *P* **67**   *L* **53**   # 455
Remein, Duane   Huawei

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

If the number of SP zones and their bit pattern must be announced before an ONU is allowed to transmit and this is determined by the OLT design, I don't see the values in setting a default. At most this should be optional.

SuggestedRemedy

Make the SP1 and SP2 default patterns optional.

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.4.5**   *P* **75**   *L* **34**   # 529
Wey, Jun Shan   ZTE TX

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

There are 128 switches at each stage, so the value of i should be from 0 to 127.

SuggestedRemedy

Change the current text of "i - 0, ..., 7" to "i=0, …, 127"

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.1**   *P* **79**   *L* **45**   # 456
Remein, Duane   Huawei

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

typo "ofburst"

SuggestedRemedy

use "of burst"

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.1**   *P* **80**   *L* **22**   # 457
Remein, Duane   Huawei

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

Definitions for PAR_PLACEHLDR

SuggestedRemedy

Change Value: to "0x 0-09-09-09-09-09-09-09-09"

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.2**   *P* **80**   *L* **37**   # 458
Remein, Duane   Huawei

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

This definition of CLK_IN puts the PCS out of phase by 180 degrees (1/2 EQ) with the MCRS.

SuggestedRemedy

Change "each falling edge" to "each rising edge"
In 143.3.3.4 pg 110 line 6 and 143.3.4.3 pg 116 line 24 change "each positive edge" to "each rising edge"
In 143.3.3.4 pg 110 line 24 change "positive and negative" to "rising and falling"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**
SC **142.2.2.5.2**

Page 14 of 32
8/28/2018 6:40:13 AM

Cl **142**   *SC* **142.2.2.5.2**   *P* **80**   *L* **54**   # 459
Remein, Duane   Huawei

Comment Type   **T**   *Comment Status*   **X**
No such defined term as "SP_COUNT"; "This FIFO holds at most SP_COUNT elements."
The assertion is incorrect also.

SuggestedRemedy
Change to read: "This FIFO holds either SP_LENGTH or FEC_PARITY_SIZE elements,
whichever is greater.

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.2**   *P* **81**   *L* **12**   # 460
Remein, Duane   Huawei

Comment Type   **E**   *Comment Status*   **X**
Constant name should not cross a line

SuggestedRemedy
Make "FEC_DELAY" non-breaking {Esc n s}

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.2**   *P* **81**   *L* **28**   # 461
Remein, Duane   Huawei

Comment Type   **TR**   *Comment Status*   **X**
Definition of SP[]. What is meant by "Each element consists of MSB 0 and the 257-bit
blocks …"? It appears that the definition agreed to in Pittsburgh Motion #8 did not get into
in the draft.

SuggestedRemedy
Use the agreed definition provided in remein_3ca_3_0518.pdf:
The SP array is set to the provisioned value of the synchronization pattern as determined
by the most recent settings of SP1, SP2, SP3, and their corresponding repeat parameters
by the MPCP. The msb of each cell is set to zero.

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.2**   *P* **82**   *L* **7**   # 462
Remein, Duane   Huawei

Comment Type   **T**   *Comment Status*   **X**
No such fifo as OUTPUT_FIFO (yet)

SuggestedRemedy
Change "OUTPUT_FIFO" to "TX_FIFO"

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.3**   *P* **83**   *L* **6**   # 463
Remein, Duane   Huawei

Comment Type   **T**   *Comment Status*   **X**
We are eliminating the Gearbox.

SuggestedRemedy
Change:
"PassToGearbox(v)
This function passes a 257-bit vector v to the Gearbox for outputting to the PMA." to:
PassToPMA(v)
This function passes a 257-bit vector v to the PMA.

In Fig 142-15 change ""PassToGearbox" to "PassToPMA" in 2 places.

Strike para 142.2.2.6 Gearbox (pg 83)

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 15 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **142.2.2.5.3**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.2.5.3**   *P* **83**   *L* **9**   # 544
Kramer, Glen   Broadcom

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

Transcode() function definition is wrong. It does not do scrambling (see 91.5.2.5).

SuggestedRemedy

1) Change definition of Transcode() as shown below:
Transcode(a[4])
This function performs 64B/66B to 256B/257B transcoding per 91.5.2.5 and
returns the result. It takes an array of four scrambled 66-bit blocks a[4] as an argument and
returns a 257-bit
vector.
2) In Fig 142-13, in State PROCESS_DATA, insert the following line before
TxInput<256:0> <=Transcode(XBUFFER[3:0]):

XBUFFER[3:0] <= Scramble(XBUFFER[3:0])

3) Add the definition for Scramble (a[4]) function:
Scramble(a[4])
This function scrambles the payload of a 66-bit block per 49.2.6. It takes an array of four 66-
bit blocks a[4] as an argument and returns an array of four scrambled 66-bit blocks.

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.3**   *P* **83**   *L* **11**   # 464
Remein, Duane   Huawei

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

Stray characters "a[4] "

SuggestedRemedy

Strike

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.2.5.4**   *P* **84**   *L* **17**   # 546
Kramer, Glen   Broadcom

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

In Figure 142-13, variables got mixed up in state NEXT_VECTOR.

SuggestedRemedy

Restore the text in NEXT_VECTOR to its original form on slide 6 in
remein_3ca_3a_0518.pdf

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3**   *P* **83**   *L* **31**   # 465
Remein, Duane   Huawei

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

I believe both 10 & 25G rates will be specified in Cl 142. "In the OLT, the PCS receive
function may operate at a 25.78125 Gb/s rate, as specified herein ({NG-EPON type,
symmetric}), or at a 10.3125 Gb/s rate, compliant with Clause {TBD} ({NG-EPON type,
asymmetric})."

SuggestedRemedy

Change to read:
"In the OLT, the PCS receive function may operate at a 25.78125 Gb/s rate or at a 10.3125
Gb/s rate."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 16 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **142.2.3**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.3.2**   *P* **83**   *L* **48**   # 466

Remein, Duane   Huawei

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

This text was adopted from 76.3.3.2 and needs to be aligned with the new synchronizer SD.

Note that the suggested description assumes that FecDecoded is a ternary variable with values of Invalid, True and False and when read assumes the value of Invalid. The variable must be set to either True or False by the FEC Decode process at the conclusion of each and every FEC CW decode.

SuggestedRemedy

Replace with:
"The ONU Synchronizer process begins by setting MatchCount to zero. The process then compares the upper 10-bits of the rx_buffer to the FEC_CW_DELIM constant. If a match is found the process increments MatchCount in the VERIFY state otherwise it executes the Slip() function in the SLIP_1 state to remove one bit from the rx_buffer and reinitializes. In the VERIFY state if MatchCount is less than MATCH_TARGET the rx_buffer is slipped by one FEC_CW_SIZE and the process compares the upper 10 bits of the next FEC codeword to FEC_CW_DELIM. If MatchCount is greater than or equal to MATCH_TARGET in the VERIFY state the process moves to the ALIGNED state where it sets FecFailCount to zero. If the FecDecoded goes False the process moves to the FEC_FAILURE state where FecFailCount is incremented. If FecDecoded goes to True control returns to the ALIGNED state whereas if it goes to False again the FecFailCount in incremented again. If FecFailCount reaches FEC_FAIL_LIMIT the Synchronizer process is reinitialized.

The ONU Synchronizer shall implement the state diagram as depicted in Figure 142-14."

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3.2**   *P* **84**   *L* **16**   # 467

Remein, Duane   Huawei

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

In NEXT_VECTOR state the following actions are incorrect.
TxNext <= TxNext
TxPrev <= NextTxVector()

SuggestedRemedy

Change action to:
TxPrev <= TxNext
TxNext <= NextTxVector()

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3.2**   *P* **84**   *L* **33**   # 469

Remein, Duane   Huawei

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

There is no info conveyed to the reader by setting TxInput<257> to "1".

SuggestedRemedy

Change:
"TxInput<57> <= 1" to:
"TxInput<57> <= SCRAMBLED"
Add to constants in proper order:
SCRAMBLED
 TYPE binary
 Value: 1
 When bit 257 of a TxInput or TxOutput vector is set to this value it indicates that vector bits 256:0 are scrambled data.

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3.2**   *P* **84**   *L* **33**   # 468

Remein, Duane   Huawei

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

I was in error when I suggested removing the scrambler function. It needs to be added back in.
My apologies to the Editor.

SuggestedRemedy

After xIndex <= 0 add the following:
TxInput<256:0> <= Scramble(TxInput<256:0>)

Descriptive text is included in remein_3ca_1_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3.2**   *P* **84**   *L* **35**   # 470

Remein, Duane   Huawei

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

There is no function "FEC_Encoder"

SuggestedRemedy

Change to: "FEC_Encode" (no "r")

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 17 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **142.2.3.2**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.3.2**   *P* **84**   *L* **45**   # 471
Remein, Duane   Huawei

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

These paras are incorrect and do not describe the synchronizer accepted.
"While in codeword lock, the synchronizer copies the FEC-protected bits from each data block and the parity bits of the codeword into an input buffer. When the codeword is complete, the FEC decoder is triggered, and the input buffer is freed for the next codeword. When in codeword lock, the state diagram continues to check for sync header validity. If 16 or more sync headers in a codeword pair (62 blocks) are invalid, then the state diagram deasserts codeword lock. In addition, if the persist_dec_fail signal becomes set, then codeword lock is deasserted (this check ensures that
certain false-lock cases are not persistent.)"

SuggestedRemedy
Strike

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.3.2**   *P* **86**   *L* **7**   # 472
Remein, Duane   Huawei

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

In Figure 142–15 state INIT TxOutput<257:0> statement should be an assignment not a comparison.

SuggestedRemedy
per comment

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.3.2.1**   *P* **86**   *L* **43**   # 473
Remein, Duane   Huawei

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

No such constant as FecFailLimit or MatchTarget.

SuggestedRemedy
Change to FEC_FAIL_LIMIT and MATCH_COUNT resp.

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.3.2.1**   *P* **86**   *L* **50**   # 474
Remein, Duane   Huawei

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

Typo "lock start" should be "lock state"

SuggestedRemedy
per comment

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.3.2.1**   *P* **87**   *L* **1**   # 475
Remein, Duane   Huawei

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

Where is a PD used?

SuggestedRemedy
Strike definition.

Proposed Response   *Response Status*   **O**

Cl **142**   *SC* **142.2.3.2.2**   *P* **87**   *L* **8**   # 476
Remein, Duane   Huawei

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

No such variable FecDecodeFail

SuggestedRemedy
Replace with:
FecDecoded
 TYPE: Ternary
 The FecDecoded variable can assume one of three values; "Invalid", True, or False.
When read it assumes a value of "Invalid". The variable is set by the FEC decoding engine at the completion of each codeword decoding operation.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**   Page 18 of 32
SC **142.2.3.2.2**   8/28/2018 6:40:14 AM

Cl **142**   *SC* **142.2.3.2.2**   *P* **87**   *L* **12**   # 477

Remein, Duane   Huawei

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

No such variable FecDecodeSucceed

SuggestedRemedy

Strike

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3.2.2**   *P* **87**   *L* **21**   # 478

Remein, Duane   Huawei

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

No such variable Match

SuggestedRemedy

Strike

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3.2.2**   *P* **87**   *L* **31**   # 479

Remein, Duane   Huawei

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

typo "hold" should be "holds"

SuggestedRemedy

per comment

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.2.3.2.3**   *P* **87**   *L* **36**   # 480

Remein, Duane   Huawei

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

No such function Compare

SuggestedRemedy

Strike

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **142.3.2**   *P* **90**   *L* **4**   # 481

Remein, Duane   Huawei

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

Well this could be embarrassing:
"switch the decoder in appropriately"
Standards should never be inappropriate.

SuggestedRemedy

Change to read:
"switch in the decoder as appropriate."

Proposed Response   *Response Status* **O**

Cl **142**   *SC* **Figure 142-2**   *P* **66**   *L* **13**   # 528

Wey, Jun Shan   ZTE TX

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

"MPRS" should be "MCRS"

SuggestedRemedy

Replace "MPRS" with "MCRS"

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.1**   *P* **93**   *L* **10**   # 482

Remein, Duane   Huawei

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

I think an important point to be made here is that the MCRS is applicable to either P2P or P2MP applications.

SuggestedRemedy

Change:
"Generally, single-channel RS specifications enabled a single MAC to interface to a single PHY in point-to-point links, or a multiple MACs to interface to a single PHY in P2MP links (e.g., EPON architectures). This concept is expanded in this clause to allow multiple MACs to interface with multiple PHYs (see Figure 143–1)." to:
"Generally, single-channel RS specifications enabled a single MAC to interface to a single PHY in point-to-point (P2P) links, or a multiple MACs to interface to a single PHY in P2MP links (e.g., EPON architectures). This concept is expanded in this clause to allow single or multiple MACs to interface with multiple PHYs in either P2P or P2MP applications (see Figure 143–1)."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.1**

Page 19 of 32
8/28/2018 6:40:14 AM

Cl **143**   *SC* **143.1**   *P* **93**   *L* **47**   # 573

Hajduczenia, Marek   Charter Communicatio

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

There is very little value on aggregating multiple 100M MIIs together, given that these PHYs and associated PCS layers are very mature at this time and unlikely to benefit from MCRS and associated multi-lane cpabilities

SuggestedRemedy

Strike the editorial note in lines 46-47

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2**   *P* **94**   *L* **1**   # 537

Wey, Jun Shan   ZTE TX

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

The summary of major concept should be updated to clarify the details of the MCRS_CTRL primitives.

SuggestedRemedy

Insert new text in item a). See Supplement file wey_3ca_2_0918

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2**   *P* **94**   *L* **12**   # 534

Wey, Jun Shan   ZTE TX

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

Bandwidth granted to a GLID is shared among multiple member LLIDs (see e.g. zhangweiliang_3ca_1b_0317). So within a granted GLID bandwidth there would be multiple envelopes of multiple LLIDs.

As part of the GLID related updates, Sec. 143.2 (summary of major concept) should be revised.

SuggestedRemedy

Add item g) If MCRS_CTRL primitive carries GLID bandwidth, the scheduler in MCRS schedules data from member LLIDs of GLID, based on the policy configured by OAM.

See Supplement file wey_3ca_1_0918

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.1**   *P* **94**   *L* **24**   # 574

Hajduczenia, Marek   Charter Communicatio

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

Wrong expansion: logical link identification - see 1.4.313

SuggestedRemedy

change to "logical link identifier"

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.2**   *P* **94**   *L* **37**   # 575

Hajduczenia, Marek   Charter Communicatio

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

An example of such uneven allocation might be handy.

SuggestedRemedy

Insert the following text at the end of 143.2.2: "For example, in 50/10G-EPON OLT, there are 2 transmit MCRS channels associated with 25GMII and 1 receive MCRS channel associated with XGMII."

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.3**   *P* **94**   *L* **47**   # 483

Remein, Duane   Huawei

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

MCRS_CTRL.
request() crosses line

SuggestedRemedy

Make MCRS_CTRL.request() none breaking {Esc n s}

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.2.3**

Page 20 of 32
8/28/2018 6:40:14 AM

Cl **143**   *SC* **143.2.4.2**   *P* **95**   *L* **21**   # 576
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status*   **X**
More "always" statements

SuggestedRemedy
Remove "always" in line 22

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.4.2**   *P* **95**   *L* **22**   # 484
Remein, Duane   Huawei

Comment Type   **TR**   *Comment Status*   **X**
This sentence and Fig 143-3 are misleading:
"An envelope includes one or more data frames and can contain at most two partial frames (one at the beginning and one at the end of the envelope) and any number of whole frames (see Figure 143–3)."
While true if only one channel is available to the system it is not generally true for a multi-channel system where the objective is to attain a MAC data rate of more than that of a single channel. In such systems, single frames will be spread over multiple channels and thus each envelope can transport multiple frame fragments.

SuggestedRemedy
Change to read:
"In a system with a single channel an envelope includes one or more data frames and can contain at most two partial frames (one at the beginning and one at the end of the envelope) and any number of whole frames (see Figure 143–3). In systems with multiple channels envelopes may overlap as explained in 143.2.5 and frames can be simultaneously transmitted over multiple channels with each channel transporting parts of a single frame. However, at the conclusion of the overlapped transmission only a single frame can remain fragmented."

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.4.4**   *P* **96**   *L* **46**   # 577
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status*   **X**
External reference: 46.3.1.4

SuggestedRemedy
Apply Forrest Green color to "46.3.1.4"

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.4.4**   *P* **97**   *L* **3**   # 530
Wey, Jun Shan   ZTE TX

Comment Type   **TR**   *Comment Status*   **X**
Preample should be IPG

SuggestedRemedy
Replace "preamble" with "IPG"

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.5**   *P* **97**   *L* **50**   # 485
Remein, Duane   Huawei

Comment Type   **E**   *Comment Status*   **X**
Channel bonding can be done to either US or DS and need not be done to US _AND_ DS.

SuggestedRemedy
Change:
"simultaneously bound to N1 MCRS transmit channels and N2 MCRS receive channels" to:
"simultaneously bound to N1 MCRS transmit channels or N2 MCRS receive channels"
and change:
"transmit data rate of N1×25 Gb/s and the receive data rate of N2×25 Gb/s" to:
"transmit data rate of N1×25 Gb/s or the receive data rate of N2×25 Gb/s"

Proposed Response   *Response Status*   **O**

Cl **143**   *SC* **143.2.5**   *P* **97**   *L* **51**   # 578
Hajduczenia, Marek   Charter Communicatio

Comment Type   **TR**   *Comment Status*   **X**
N1 and N2 are undefined - these variables show up in the text in a rather unexpected way and not explained what these are

SuggestedRemedy
Either add some explanation to what N1 and N2 are, or remove them altogether - right now, it does not serve to explain what it is intended

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 21 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **143.2.5**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.2.5**   *P* **98**   *L* **30**   # 579

Hajduczenia, Marek   Charter Communicatio

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

Figure 143-6 uses different colors for LLID a and LLID B, making LLID B bars hard to read (color is too light)

SuggestedRemedy

Use the same color for LLID A and B alike. Also, for improved readability, consider using dashed horizontal axes and dotted vertical guide lines

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.2.5.1**   *P* **98**   *L* **41**   # 538

Wey, Jun Shan   ZTE TX

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

Section 143.2.5.1 describes LLID transmission over multiple MCRS channels. The description is missing the following aspects and should be further expanded.
☐ MCRS should collect the information of channel availability and the related time duration for data transmission.
☐ An EQ is delivered over the channel that has the earliest transmission availability. If there are more than one such channel, the one with the lowest channel index value is selected.
☐ EQs are delivered over multiple channels based on channel transmission availability. The EQs transmitted over the same channel are formed into one envelope.
☐ The grant allocation in figure 143-7 could be optimized to maximize the peak rate.

SuggestedRemedy

See also Supplement file wey_3ca_2_0918

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.2.5.3**   *P* **99**   *L* **43**   # 486

Remein, Duane   Huawei

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

While 33 is a good number for 50G-EPON it may not be right in a generic sense.

SuggestedRemedy

Change:
"The number of rows is set to
"… 32. This provides sufficient buffering ..." to:
"… a size sufficient to accommodate the expected skew, for example 33. "In this example a size of 33 provides sufficient buffering …"

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.1**   *P* **103**   *L* **5**   # 580

Hajduczenia, Marek   Charter Communicatio

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

"In addition to the M PLS service interfaces" - irrespective of how many times I read it, it always reads as "MPLS" = Multi Protocol Label Switching

SuggestedRemedy

To avoid confusion, can we switch from "M" to "K" (for example)?

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.1**   *P* **103**   *L* **7**   # 581

Hajduczenia, Marek   Charter Communicatio

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

Forward looking reference to EPON-specific figure

SuggestedRemedy

Drop "and Figure 143-18" - it is not needed + update Figure 143-10 accordingly

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.1.1**   *P* **103**   *L* **41**   # 582

Hajduczenia, Marek   Charter Communicatio

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

"In all single channel RSs"

SuggestedRemedy

Change to "In all single channel RS,"

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.1.1**   *P* **103**   *L* **45**   # 583

Hajduczenia, Marek   Charter Communicatio

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

Primitive name broken across line

SuggestedRemedy

Make sure PLS_DATA…is not broken across lines

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 22 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **143.3.1.1**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**	*SC* **143.3.1.1.1**	*P* **103**	*L* **53**	#	584

Hajduczenia, Marek   Charter Communicatio

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

External reference: 46.1.7.1

SuggestedRemedy

Add Forrest Green tag to the reference text. Also in 143.3.1.1.3

Proposed Response   *Response Status*   **O**

Cl **143**	*SC* **143.3.1.2**	*P* **105**	*L* **8**	#	487

Remein, Duane   Huawei

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

1st instance of MPCP

SuggestedRemedy

Change "MPCP" to Multi-Point Control Protocol (MPCP)

Proposed Response   *Response Status*   **O**

Cl **143**	*SC* **143.3.1.2.1**	*P* **105**	*L* **11**	#	535

Wey, Jun Shan   ZTE TX

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

Bandwidth granted to a GLID is shared among multiple member LLIDs (see e.g. zhangweiliang_3ca_1b_0317). So within a granted GLID bandwidth there would be multiple envelopes of multiple LLIDs. The format of MCRS_CTRL[ch].request(link_id, epam, env_length) primitive indicates EQs from LLID(link_id) form an envelope of length(env_length) from position(epam) on channel(ch). The syntax is correct if link_id represents a ULID/MLID/PLID. However, if link_id represents a GLID, it is incorrect to use the parameter 'env_length' in the MCRS_CTRL primitive, as EQs from different member LLIDs form multiple envelopes on the specified channel. The MCRS_CNTL primitive should indicate the length of the granted GLID bandwidth instead. It is more appropriate to use 'grant_length' which would apply to all LLID types.

SuggestedRemedy

See Supplement file wey_3ca_1_0918

Proposed Response   *Response Status*   **O**

Cl **143**	*SC* **143.3.2**	*P* **105**	*L* **50**	#	540

Kramer, Glen   Broadcom

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

The description of Envelope Header format does not indicate bit transmisison order for the header.
Envelope header fields are defined not in correct order.
Missing any information of CRC8 calculation method (generating polynomial, bit order, etc.)

SuggestedRemedy

Replace subclause 143.3.2 with the text, figures, and tables shown in kramer_3ca_1_0918.pdf. (kramer_3ca_2_0918.pdf shows clean text version)

Main changes:
1) Indicate bit signifince for various header fileds in Figure 143-11, as shown in kramer_3ca_1_0918.pdf (see red text)
2) Clarify bit order: "Octets within each envelope header field are transmitted from least significant to most significant. Bits within each octet are transmitted from LSB to MSB." (same text as we use for MPCPDUs).
3) Add references to CRC8 sublcuase in C65 and add examples of CRC8 values.

Proposed Response   *Response Status*   **O**

Cl **143**	*SC* **143.3.2**	*P* **106**	*L* **44**	#	488

Remein, Duane   Huawei

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

Typo "received" should be "receiver"
in "value is ignored at the received except for"

SuggestedRemedy

per comment

Proposed Response   *Response Status*   **O**

Cl **143**	*SC* **143.3.3.1**	*P* **108**	*L* **33**	#	489

Remein, Duane   Huawei

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

Empty section

SuggestedRemedy

delete

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.3.3.1**

Page 23 of 32
8/28/2018 6:40:14 AM

Cl **143**   *SC* **143.3.3.3**   *P* **108**   *L* **51**   # 541

Kramer, Glen   Broadcom

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

The concept of EQ is introduced in clause 143. It makes more sense to have all EQ constants defined in the same clause.

SuggestedRemedy

1) Move definitions of IBI_EQ and RATE_ADJ_EQ from 142.2.2.5.1 Constants to 143.3.3.3 Constants.
2) in 143.3.3.3, change the definition of INTER_ENV_IDLE into following:
IEI_EQ
  TYPE: 72-bit vector
  Value: 0xFF-08-08-08-08-08-08-08
  The Inter-Envelope Idle represents an EQ value transmitted between envelopes.
3) Replace remaining instances of INTER_ENV_IDLE with IEI_EQ.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.3**   *P* **108**   *L* **52**   # 491

Remein, Duane   Huawei

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

The value or size of severl constants and variables are application dependent. As such in 143.3.3 and 143.3.4 this shold be reflected in the definition. Application specific definitons should be noted in 143.4.1.x.

SuggestedRemedy

See remein_3ca_2_0918.pdf for specific changes and additions

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.3**   *P* **108**   *L* **52**   # 490

Remein, Duane   Huawei

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

ADJ_BLOCK_SIZE details needed

SuggestedRemedy

TYPE: integer
Value: implementtion dependent.
The ADJ_BLOCK_SIZE represents the number of EQs that encode to a single FEC codeword in the Nx25G-EPON system.

This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.3**   *P* **109**   *L* **3**   # 492

Remein, Duane   Huawei

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

INTER_ENV_IDLE has been replaced with IEI_EQ.

SuggestedRemedy

Replace "INTER_ENV_IDLE" with "IEI_EQ" here and at pg 115 line 43
On pg 117 line 19 & 20 replace "INTER_ENV_IDLE" with "Inter-Envelope Idle"

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.3**   *P* **109**   *L* **15**   # 493

Remein, Duane   Huawei

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

RATE_ADJ_EQ details needed

SuggestedRemedy

replace "{TBD}" with "0xFF-09-09-09-09-09-09-09-09"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.3.3.3**

Page 24 of 32
8/28/2018 6:40:14 AM

Cl **143**   *SC* **143.3.3.3**   *P* **109**   *L* **19**   # 494
Remein, Duane   Huawei

Comment Type **TR**   *Comment Status* **X**
    RATE_ADJ_SIZE details needed

SuggestedRemedy
    TYPE: integer
    Value: implementation dependent.
    The RATE_ADJ_SIZE variable represents the number of EQs that encode to a single FEC
    parity word in the Nx25G-EPON system.

    This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.4**   *P* **109**   *L* **31**   # 495
Remein, Duane   Huawei

Comment Type **TR**   *Comment Status* **X**
    BlkLeft details needed

SuggestedRemedy
    TYPE: integer
    The BlkLeft variable represents the number of EQs remaining in the envelope currently
    being processed by the MCRS.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.4**   *P* **109**   *L* **36**   # 496
Remein, Duane   Huawei

Comment Type **TR**   *Comment Status* **X**
    ENV_TX is not a 72-bit shift register as implied by "72-bit binary array"

SuggestedRemedy
    Change TYPE: to "array of 72-bit vectors"

    This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.4**   *P* **109**   *L* **40**   # 497
Remein, Duane   Huawei

Comment Type **E**   *Comment Status* **X**
    Given that this is section is intended to be generic we should omit this sentence "For 100
    Gb/s devices N = 4, for 50 Gb/s devices N = 2, and for 25 Gb/s devices N = 1." as the rate
    is dependent on the base xMII rate which can be either 25G or 10G.

SuggestedRemedy
    per comment

    This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.4**   *P* **109**   *L* **46**   # 498
Remein, Duane   Huawei

Comment Type **T**   *Comment Status* **X**
    Given the finite size of the variable the following statement is not quite correct: "if negative
    this variable represents the number of EQ periods since the end of the last envelope on the
    channel."
    Also it should be noted that EnvLeft[] is none roll-over (assuming an ONU can go > 21ms
    without a grant).

SuggestedRemedy
    Change:
    "if negative this variable represents the number of EQ periods since the end of the last
    envelope on the channel." to:
    "if negative this variable represents the minimum number of EQ periods since the end of
    the last envelope on the channel."

    Add at end of description "At terminal count this variable does not rollover."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 25 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **143.3.3.4**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.3.3.4**   *P* **109**   *L* **51**   # 499

Remein, Duane   Huawei

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

The primary purpose of this variable is skew remediation not the row index into ENV_TX which would only requires a 5 bit variable.

SuggestedRemedy

Change:
"The EnvPam variable indicates the row index in the ENV_RX into which the received data is to be written, its primary function is to remove skew accumulated during transport between two or more channels from a single transmitter." to:
"The EnvPam variable is used to remove skew accumulated during transport between two or more channels from a single transmitter. Its lower bits are also used as the row index for ENV_RX into which the received data is to be written (see 143.3.4)."

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.4**   *P* **110**   *L* **16**   # 500

Remein, Duane   Huawei

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

We seem to have lost rCol definition

SuggestedRemedy

Add:
rCol
    TYPE: Integer
    The rCol variable represents the ENV_TX buffer column currently being read by the Transmit process. Each column corresponds to a separate transmission channel, i.e., a separate xMII interface. The size of this variable is implementation specific.

This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.4**   *P* **110**   *L* **25**   # 501

Remein, Duane   Huawei

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

There is only one TX_CLK so this phrase is extraneous and should be stricken "for channel c".

SuggestedRemedy

per comment

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.4**   *P* **110**   *L* **29**   # 502

Remein, Duane   Huawei

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

TxActive description needed

SuggestedRemedy

Replace { description } with "When True the TxActive[c] variable indicates that channel c is currently enabled for use. When this variable is False transmission on channel c is prohibited at all times."

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.5**   *P* **111**   *L* **11**   # 503

Remein, Duane   Huawei

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

GetFillerEQ function not copied properly corrupting EnvStartHeader definition.

SuggestedRemedy

Refer back to remein_3ca_2_0718 page 20 & 21 for proper definitions of both functions.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 26 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **143.3.3.5**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.3.3.6.1**   *P* **113**   *L* **21**   # 504

Remein, Duane   Huawei

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

What does "LinkId[wCol] ? 0x00-00" mean?

SuggestedRemedy

Change "?" to "!="

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.3.6.2**   *P* **113**   *L* **45**   # 505

Remein, Duane   Huawei

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

This statement is redundant with the 2nd sentence in the next para and should be stricken: "One instance of the state diagram is instantiated for each xMII."

SuggestedRemedy

per comment

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.4.3**   *P* **116**   *L* **7**   # 506

Remein, Duane   Huawei

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

ENV_RX is not a 72-bit shift register

SuggestedRemedy

Change TYPE: to "array of 72-bit vectors"

This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.4.3**   *P* **116**   *L* **11**   # 507

Remein, Duane   Huawei

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

Given that this is section is intended to be generic we should omit this sentence "For 100 Gb/s devices N = 4, for 50 Gb/s devices N = 2, and for 25 Gb/s devices N = 1." as the rate is dependent on the base xMII rate which can be either 25G or 10G.

SuggestedRemedy

per comment

This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.3.4.3**   *P* **116**   *L* **52**   # 508

Remein, Duane   Huawei

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

We seem to have lost wCol and wRow definitions

SuggestedRemedy

Add:
wCol
    The wCol variable represents the ENV_RX buffer column currently being written by the Receive process. Each column corresponds to a separate reception channel, i.e., a separate xMII interface.

wRow
    The wRow variable represents the ENV_RX buffer row index currently being written by the Receive process.

This change is included in remein_3ca_2_0918.pdf.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 27 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **143.3.4.3**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.4.1**   *P* **121**   *L* **3**   # 509

Remein, Duane   Huawei

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

    Duplicate alpha list) Alpha list) not needed.

SuggestedRemedy

    Remove the dup "alpha)"s

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.4.1**   *P* **121**   *L* **3**   # 510

Remein, Duane   Huawei

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

    Assuming we will use 10G in the US direction

SuggestedRemedy

    Change:
    "supporting 25 Gb/s operation" to:
    "supporting 25 Gb/s or 10 Gb/s operation"

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.4.1**   *P* **121**   *L* **4**   # 585

Hajduczenia, Marek   Charter Communicatio

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

    Double lettered list

SuggestedRemedy

    Remove one of the list levels

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.4.1**   *P* **121**   *L* **10**   # 511

Remein, Duane   Huawei

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

    Duplicate statement with Pg 119 line 43: An MCRS channel that carries information from
    the OLT to the ONU is referred to as the downstream channel (DC), and the channel that
    carries information from an ONU to the OLT is referred to as the upstream channel (UC).

SuggestedRemedy

    Strike

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.4.1.2**   *P* **121**   *L* **48**   # 531

Wey, Jun Shan   ZTE TX

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

    Typo "were" should be "where"

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.4.1.2**   *P* **122**   *L* **1**   # 512

Remein, Duane   Huawei

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

    This para should be part of the preceding para which deals with "A distinction is made
    regarding the underlying mechanisms of achieving the asymmetric data rates."

SuggestedRemedy

    Combine the two paras.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.4.1.2**

Page 28 of 32
8/28/2018 6:40:14 AM

Cl **143**   *SC* **143.4.1.2**   *P* **122**   *L* **12**   # 532

Wey, Jun Shan   ZTE TX

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

"...transmit on DC0 and DC1" is incorrect

SuggestedRemedy

Change to 'receive' on DC0 and DC1

Proposed Response   *Response Status* **O**

Cl **143**   *SC* **143.5**   *P* **124**   *L* **2**   # 586

Hajduczenia, Marek   Charter Communicatio

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

Wrong capitalization: MULTI-CHANNEL Reconciliation SUBLAYER

SuggestedRemedy

Change to "Multi-Channel Reconciliation Sublayer"
The same fix needed on page 125, line 4/5

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144**   *P* **127**   *L* **1**   # 548

Kramer, Glen   Broadcom

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

The following state diagrams in clause 144 were copied from Clause 77, but they are not applicable to 802.3ca:
Figure 144–17—Discovery Processing OLT Register state diagram
Figure 144–18—Discovery Processing OLT Final Registration state diagram
Figure 144–19—Discovery Processing ONU Registration state diagram
Figure 144–20—DISCOVERY Activation ONU state diagram (missing alignment with SYNC_PATTERN Validation ONU state diagram)
Figure 144–24—Gate Processing state diagram at OLT
Figure 144–28—Report Processing state diagram at ONU
Figure 144–29—Report Processing state diagram at OLT

MPCP cannot generate keep-alive REPORTs because without specific PLID envelope allocation, they cannot be transmitted. A different method is required.

Many of the constant, variable, function, and message definitions are missing

SuggestedRemedy

Replace the existing Clause 144 with the material provided in kramer_3ca_3_0918.pdf. Main changes:

1) DISCOVERY and SYNC_PATTERN MPCPDU handing are combined into a single state daigram in the OLT and in the ONU to guarantee the proper alignment (i.e., ONU responds to discovery only if it received 2 or 3 SYNC_PATTERN MPCPDUs)

2) Clarified sublayer interfaces and added interface-specific abbreviations for indication and request primitives (MCSI + MCSR, MCII + MCIR, MADI + MADR)

3) Introduced a better and more concise notation for processing messages withing the state diagrams

4) Added missing definitions.

5) Total number of state diagrams reduced from 14 to 10

6) Added allocations fro LLID values per editorial note on page 152

7) Cleaned up definitions of set access methods (IsEmty, Clear, RemoveHead, PeekHead).

some subclauses (mostly introductory text) are to be supplied at a later time.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144**

Page 29 of 32
8/28/2018 6:40:14 AM

Cl **144**   *SC* **144**   *P***127**   *L***1**   # 549
Kramer, Glen   Broadcom

Comment Type   **TR**   *Comment Status* **X**
   Clause 144 contains a lot of repetition and flow or material is confusing.

SuggestedRemedy
   Organize the clause into separate areas (in this order):

   1) General introduction of P2MP operations for readers familiar with Ethernet, but not with
   EPON.
   2) Protocol-intependent operation (parsing and multiplexing)
   3) Protocol-specific operatoions (currently two protocols: Myltipoint Control Protocol
   [MPCP] and Channel Control Protocol [CCP])

   Adopt the clause outline as shown in kramer_3ca_3_0918.pdf.

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.1**   *P***128**   *L***12**   # 587
Hajduczenia, Marek   Charter Communicatio

Comment Type   **T**   *Comment Status* **X**
   Missing reference in red

SuggestedRemedy
   Change "see LLID in <TBD, Clause 143>" to "see LLID in 143.2.1" - make sure the link is
   live

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.1.1**   *P***128**   *L***17**   # 588
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status* **X**
   Goals and objectives are not needed

SuggestedRemedy
   Strike 144.1.1

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.1.2**   *P***128**   *L***24**   # 589
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status* **X**
   "Figure 144–2 depict" and should be "Figure 144–2 depicts"

SuggestedRemedy
   Per comment

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.1.2**   *P***128**   *L***32**   # 590
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status* **X**
   "This clause also specifies a specific … " - a tad too specific :)

SuggestedRemedy
   Change to "This clause also defines a specific"

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.1.2**   *P***128**   *L***36**   # 591
Hajduczenia, Marek   Charter Communicatio

Comment Type   **E**   *Comment Status* **X**
   MPCP has been expanded before

SuggestedRemedy
   Change "MultiPoint Control Protocol (MPCP)," to "MPCP"

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.2.3.4**   *P***133**   *L***25**   # 536
Wey, Jun Shan   ZTE TX

Comment Type   **TR**   *Comment Status* **X**
   GLID definition (based on 143.2.1.4 in D1.2_diff) should be updated to clarify the
   relationship between GLID and LLIDs.

SuggestedRemedy
   See Supplement file wey_3ca_1_0918

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 30 of 32
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **144.2.3.4**   8/28/2018 6:40:14 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3**   *P* **132**   *L* **33**   # 513

Remein, Duane   Huawei

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

Use of Italics should be reserved for variables and not used for emphasis

SuggestedRemedy

Globally scour the draft for inappropriate use of italics and remove.

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.3.2.3**   *P* **136**   *L* **48**   # 542

Kramer, Glen   Broadcom

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

16-bit integer is not sufficient to hold RTT values in EQ anymore.

SuggestedRemedy

In the definitions of newRTT and RTT, change "TYPE: 16-bit unsigned integer" to "TYPE: 24-bit unsigned integer"

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.4.2.2**   *P* **146**   *L* **15**   # 543

Kramer, Glen   Broadcom

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

SpIndex "may have values" is not specific enough, as it does not say that other valus are not permitted.

SuggestedRemedy

Replace the definition of SpIndex with the one below:
"This variable represents the index of the synchronization pattern announced by the OLT in the SYNC_PATTERN MPCPDU. The SpIndex variable takes values 0 or 1 in case when two synchronization patterns are used, or 0, 1, and 2, in case when three synchronization patterns are used. Details about individual synchronization pattern elements, their number, and meaning are covered in 142.2.2.2."

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.4.3**   *P* **158**   *L* **32**   # 539

Wey, Jun Shan   ZTE TX

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

Clarification should be made to relate grant allocation to maximize the peak rate,

SuggestedRemedy

Insert new text as shown in Supplement file wey_3ca_2_0918

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.4.4.1**   *P* **168**   *L* **3**   # 514

Remein, Duane   Huawei

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

This statement is not clear: "When multiple channels are assigned, a transmission on each channel shall start at Grant Start Time and shall have the length as necessary to transmit all allocated envelopes together with the associated optical and FEC overhead."

SuggestedRemedy

Change from:
"When multiple channels are assigned, a transmission on each channel shall start at Grant Start Time and shall have the length as necessary to transmit all allocated envelopes together with the associated optical and FEC overhead." to read:
"When the bitmap indicates multiple channels are assigned, the transmission start time and duration are the same for all indicated channels as dictated by Grant Start Time and the sum of the EnvLength fields."

Proposed Response   *Response Status* **O**

Cl **144**   *SC* **144.4.4.4**   *P* **172**   *L* **31**   # 515

Remein, Duane   Huawei

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

Is this Requirement within a requirement needed? "The REGISTER MPCPDU is an instantiation of the Generic MPCPDU and shall be as shown in
Figure 144–34 with details defined as follows:
a) DA. The destination address used shall be an individual MAC address.

SuggestedRemedy

Change:
"a) DA. The destination address used shall be an individual MAC address." to read:
"a) DA. The destination address used is an individual MAC address."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.4.4.4**

Page 31 of 32
8/28/2018 6:40:14 AM

Cl **144**   *SC* **Fig 144-3, 144-4**   *P***131**   *L*   # 533

Wey, Jun Shan   ZTE TX

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

    Figure 144-4 comes before Fig. 144-3

SuggestedRemedy

    Reverse the figure numbers

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**   Page 32 of 32
SC **Fig 144-3, 144-4**   8/28/2018 6:40:14 AM