Cl **1** *SC* **1** *P* **1** *L* **27** # 108

Nicholl, Gary — Cisco systems

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

IEEE Std 802.3cm-2020 and 802.3cq-2002 have now been approved

SuggestedRemedy

Change 802.3cm-20XX to 802.3cm-2020 and 802.3cq-20XX to 802.3cq-2020 throughout the draft

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1** *P* **21** *L* **14** # 105

Nicholl, Gary — Cisco systems

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

The "important Notice" is no longer required according to IEEE.

SuggestedRemedy

Delete lines 14 through 24: IMPORTANT NOTICE: IEEE Standards documents are not intended to ensure safety, health, or environmental protection, or ensure against interference with or from other devices or networks. Implementers of IEEE Standards documents are responsible for determining and complying with all appropriate safety, security, environmental, health, and interference protection practices and all applicable laws and
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http://standards.ieee.org/IPR/disclaimers.html

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4** *P* **22** *L* # 84

Stassar, Peter — Huawei

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

We may need a definition of channel spacing. The proposed definition is consistent with the one currently in Recommendation ITU-T G.671.

SuggestedRemedy

Add "1.4.181a Channel Spacing: The center-to-center difference in frequency or wavelength between adjacent channels in a WDM application. DWDM channel spacings are based on the grid found in [ITU-T G.694.1]. CWDM channel spacings are based on the grid found in [ITU-T G.694.2]."

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4** *P* **22** *L* # 85

Stassar, Peter — Huawei

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

We may need a definition of polarization dependent loss. The proposed definition is consistent with the one currently in Recommendation ITU-T G.671.

SuggestedRemedy

Add "1.4.401a polarization dependent loss: The variation of insertion loss due to a variation of the state of polarization (SOP) over all SOPs within the channel frequency range (DWDM link) or channel wavelength range (CWDM and WWDM links)

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4** *P* **22** *L* **27** # 50

Brown, Matt — Huawei Technologies Canada

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

only one defintion

SuggestedRemedy

Change "definitions" to "definition"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1** P **24** L **8** # 47

Maguire, Valerie — The Siemon Company

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

802.3cg has published.

SuggestedRemedy

Replace, "802.3cg-20xx" with, "802.3cg-2019"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.21b** P **27** L **35** # 124

Issenhuth, Tom — Huawei

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

States table 45.24b "as inserted by IEEE Std 802.3cu-20xx" but table 45.24b was inserted by IEEE Std 802.3cn-2019 and modifed by IEEE Std 802.3cu-20xx.

SuggestedRemedy

Change "as inserted by IEEE Std 802.3cu-20xx" to "as modified by IEEE Std 802.3cu-20xx"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.186** P **36** L **9** # 48

Maguire, Valerie — The Siemon Company

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

802.3cg has published.

SuggestedRemedy

Replace, "802.3cg-20xx" with, "802.3cg-2019"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.186aa.1** P **36** L **35** # 1

Bruckman, Leon — Huawei

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

The "IFEC bypass indication enable" bit when set to a one enables the bypass of the FEC error indication function, not the error indication. See text in clause 91.6.2.

SuggestedRemedy

Change: "When set to a one, this bit enables bypass of the error indication.",

to: "When set to a one, this bit enables bypass of the error indication function."

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.186aa.1** P **36** L **37** # 2

Bruckman, Leon — Huawei

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

Text not clear

SuggestedRemedy

Change: "Writes to bit 1.2200.1 are ignored and reads return a zero if the Inverse RS-FEC does not have the ability to bypass indicating decoding errors to the remote PCS layer (see 152.5.2.3).",

to: "Writes to bit 1.2200.1 are ignored and reads return a zero if the Inverse RS-FEC does not have the ability to bypass decoding error indications to the remote PCS layer (see 152.5.2.3)."

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.186aa.2** P **36** L **44** # 3

Bruckman, Leon — Huawei

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

Text not clear

SuggestedRemedy

Change: "Writes to this bit are ignored and reads return a zero if the Inverse RS-FEC does not have the ability to bypass correction.",

to: "Writes to this bit are ignored and reads return a zero if the Inverse RS-FEC does not have the ability to bypass error correction."

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.186ab.8** *P* **38** *L* **33** # 4

Bruckman, Leon Huawei

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

The "IFEC bypass indication ability" bit when set to a one one indicates that the bypass of the FEC error indication function can be bypass.

SuggestedRemedy

Change: "This bit is set to one to indicate that the decoder has this ability to bypass error indication.",

to:"This bit is set to one to indicate that the decoder has this ability to bypass the error indication function."

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.186ah.2** *P* **41** *L* **40** # 5

Bruckman, Leon Huawei

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

Inconsistent bracketing. In clause 153.2.4.1.1 the variable is indicated as: fas_lock<x>

SuggestedRemedy

Change: "fas_lock[7]", to:"fas_lock<7>". The same for all other 19 lanes in the following clauses 45.2.1.186ah.3 to 45.2.1.186ai.12.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "fas_lock[x]" to "fas_lock<x>" in clauses 45.2.1.186ah.1 to 45.2.1.186ah.9 and in clauses 45.2.1.186ai.1 to 45.2.1.186ai.12.

Cl **45** *SC* **45.2.1.186aj** *P* **45** *L* **16** # 6

Bruckman, Leon Huawei

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

Lane identification shall be separated from lane lock, so the value of lane mapping is dependent on the lane identification status.

SuggestedRemedy

Add the lane identification status bits to the MDIO and make the lane mapping register dependent on these bits instead of fas lock. Detalis of remedy are presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **80** *SC* **80.1** *P* **49** *L* **12** # 44

Maguire, Valerie The Siemon Company

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

Missing oxford comma.

SuggestedRemedy

Replace, "100GBASE-LR1 and in Clause154: with, "100GBASE-LR1, and in Clause154" and extend the underline change mark to include the added ",".

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.1.3** *P* **49** *L* **10** # 109

Nicholl, Gary Cisco systems

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

Extra space between "and " and "in"

SuggestedRemedy

Delete extra space.

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.1.3** *P* **49** *L* **14** # 110

Nicholl, Gary Cisco systems

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

The editing instruction states "Change Figure 80-1 in 80.1.3 as follows:", but there is no "Figure 80-1" in the document.

SuggestedRemedy

Import Figure 80-1 and update accordingly.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 51.

Cl **80** *SC* **80.1.3** *P* **49** *L* **16** # 51

Brown, Matt — Huawei Technologies Canada

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

this is not an acceptable amendment instruction

SuggestedRemedy

Change instruction to "Replace figure 80-1 with the following:"
Import Figure 80-1 and make the necessary changes.

Alternately, change instruction to the following:
"In Figure 80-1, change the list of medium types as follows:"
"100GBASE-R, or 100GBASE-P, or 100GBASE-Z. " with proper strike-out and underline

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove existing text and replace with "In Figure 80-1, change the list of medium types under CGMII as follows:

"100GBASE-R, or 100GBASE-P, or 100GBASE-Z." with proper strike-out and underline.

Cl **80** *SC* **80.1.4** *P* **49** *L* **25** # 52

Brown, Matt — Huawei Technologies Canada

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

The Clause 74 FEC is not relevant and for Clause 91 it is not necessary to list out the transcoding as this one of many subfunctions withing the Clause 91 FEC.

SuggestedRemedy

Change to:
"Some 100GBASE-Z Physical Layer devices also use the FEC of Clause 91 or the FEC of Clause153."

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.1.5** *P* **50** *L* **3** # 41

Trowbridge, Steve — Nokia

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

Editor's note is incorrect

SuggestedRemedy

Change "Insert Table80–4 after Table 80-4a as follows:" to "Insert Table80–4b after Table 80-4a as follows:"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "Insert Table 80–4 after Table 80–4a as follows: "Insert Table 80–4b after Table 80–4a as follows:"

Cl **80** *SC* **80.1.5** *P* **50** *L* **3** # 111

Nicholl, Gary — Cisco systems

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

Editing instruction states "Insert Table80–4 after Table 80-4a as follows:", but the tabel inserted is actually Table 80-4b.

SuggestedRemedy

Update editing instruction to read " "Insert Table80–4b after Table 80-4a as follows:"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 41.

Cl **80** *SC* **80.1.5** *P* **50** *L* **6** # 113

Nicholl, Gary — Cisco systems

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

Table 80-4b is a new table , so there should be no underlining.

SuggestedRemedy

Delete all underlining in Table 80-4b

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.1.5** *P* **50** *L* **6** # 112

Nicholl, Gary — Cisco systems

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

Table 80-4b is missing a column for Clause 135.

SuggestedRemedy

Add a column for Clause 135.

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.1.5** *P* **50** *L* **10** # 7

Bruckman, Leon — Huawei

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

Clause 80.1.4 indicates that the clause 74 FEC is optional for 100GBASE-Z, but it is not shown in Table 80-4b

SuggestedRemedy

Add clause 74 to table 80-4b as optional.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Clause 74 is not relevant and will be removed from 80.1.4, see response to comment 52, so there is no need to add clause 74 to table 80-4b.

Cl **80** *SC* **80.2.2** *P* **50** *L* **34** # 53

Brown, Matt — Huawei Technologies Canada

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

100GBASE-Z must be added to the list of PHY types.

SuggestedRemedy

Add 100GBASE-Z to the list of PHY types.

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.2.4** *P* **51** *L* **5** # 42

Trowbridge, Steve — Nokia

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

The first sentence is wrong given the additions in the rest of the paragraph.

SuggestedRemedy

Change the entire paragraph to:
Clause 83 specifies 40GBASE-R and 100GBASE-R PMAs that may be used with any PHY type of the corresponding rate. Additional PMAs are only applicable to specific PHY types:
a) Clause 94 specifies a PMA that may be used only in a 100GBASE-KP4 PHY.
b) Clause 135 specifies a PMA that may be used in other 100GBASE-P PHY types.
c) Clause 153 specifies a PMA that is used in the 100GBASE-ZR PHY.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editoral license to ensure proper formatting.

Cl **80** *SC* **80.2.4** *P* **51** *L* **6** # 54

Brown, Matt — Huawei Technologies Canada

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

There are no changes marked in the paragraph.

SuggestedRemedy

Underline the last sentence.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 42.

Cl **80** *SC* **80.3.2** *P* **51** *L* **28** # 114

Nicholl, Gary — Cisco systems

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

Extra space between 100GBASE-R and 100GBASE-P

SuggestedRemedy

Use strikethrough for the extra space after the "and"

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.3.2** *P* **51** *L* **30** # 115

Nicholl, Gary — Cisco systems

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

Missing underline, under space.

SuggestedRemedy

Change "Figure 80–4a, " to "Figure 80–4a, "

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 55.

Cl **80** *SC* **80.3.2** *P* **51** *L* **30** # 55

Brown, Matt — Huawei Technologies Canada

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

Fix amendment markup.

SuggestedRemedy

Space after "Figure 80-4" should be undelined.

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.3.2** *P* **52** *L* **1** # 56

Brown, Matt — Huawei Technologies Canada

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

Underlined text is not required here.

SuggestedRemedy

Remove underline on "Figure 80-4a".

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.3.2** *P* **52** *L* **1** # 116

Nicholl, Gary — Cisco systems

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

There should be no underline in editing instruction

SuggestedRemedy

Remove underline in editing instruction

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 56.

Cl **80** *SC* **80.4** *P* **52** *L* **49** # 117

Nicholl, Gary — Cisco systems

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

Need to reference 802.3cu in editing instruction

SuggestedRemedy

Change editing instruction from "Change Table80–5 (as modified by IEEE Std 802.3cd-2018) as follows (unchanged 40G rows not shown)"
to
"Change Table80–5 (as modified by IEEE Std 802.3cd-2018 and IEEE Std 802.3cu-xx) as follows (unchanged 40G rows not shown)"

Response *Response Status* **C**

ACCEPT.

Cl **80** *SC* **80.4** *P* **52** *L* **50** # 57

Brown, Matt — Huawei Technologies Canada

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

No need to describe the not-shown rows. It is sufficient to refer to "unchanged" rows.

SuggestedRemedy

Change "unchanged 40G rows" to "some unchanged rows".

You might then reduce the table size by deleting rows for MAC, PCS, and 100GBASE-R FEC.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change wording to "unchanged rows not shown" and remove unchanged rows from the table.

Cl **80** *SC* **80.5** *P* **55** *L* **1** # 45

Maguire, Valerie — The Siemon Company

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

Suggest that "skew variation needs to be revisited, input requested" be formatted as an Editor's Note.

SuggestedRemedy

Format, "skew variation needs to be revisited, input requested" as an Editor's Note.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 58.

Cl **80** *SC* **80.5** *P* **55** *L* **1** # 58

Brown, Matt — Huawei Technologies Canada

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

Improper editor's note.

SuggestedRemedy

Use proper editor's note by inserting editor's note that and include "Editor's note:".

Response *Response Status* **C**

ACCEPT.

Cl **83C** *SC* **83C.4** *P* **120** *L* **8** # 70

Brown, Matt — Huawei Technologies Canada

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

Editing instruction should refer to the inserted subclause.

SuggestedRemedy

Change to "Insert new subclause 83C.4 at the end of Annex 83C as follows:"

Response *Response Status* **C**

ACCEPT.

Cl **125** *SC* **FM** *P* **1** *L* **26** # 49

Brown, Matt — Huawei Technologies Canada

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

spelling

SuggestedRemedy

Change "EEE" to "IEEE"

Response *Response Status* **C**

ACCEPT.

Cl **135A** *SC* **135A** *P* **122** *L* **1** # 71

Brown, Matt — Huawei Technologies Canada

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

Editing instruction was carried over from 802.3cd and is not relevant in 802.3ct.

SuggestedRemedy

Delete editing instruction at the top of page 122.

Response *Response Status* **C**

ACCEPT.

Cl **135A** *SC* **135A.3** *P* **122** *L* # 72

Brown, Matt — Huawei Technologies Canada

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

Editing instruction should refer to the inserted subclause.

SuggestedRemedy

Change to "Insert new subclause 135A.3 at the end of Annex 135A as follows:"

Response *Response Status* **C**

ACCEPT.

Cl **152** *SC* **152.1** *P* **59** *L* **33** # 60

Brown, Matt — Huawei Technologies Canada

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

The definition for Inverse RS-FEC is in the wrong location in the list.

SuggestedRemedy

Move definition for Inverse RS-FEC to between definitions for FEC and LLC.

Response *Response Status* **C**

ACCEPT.

Cl **152** *SC* **152.1** *P* **59** *L* **34** # 61

Brown, Matt — Huawei Technologies Canada

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

The 100G PMA defined in Clause 135 is called the 100GBASE-P PMA.

SuggestedRemedy

Remove the note from the definition list and in the layer diagram for the associated PMA sublayers replace "PMA" with "100GBASE-P PMA".

Response *Response Status* **C**

ACCEPT.

Cl **152** *SC* **152.1.1** *P* **58** *L* **11** # 59

Brown, Matt — Huawei Technologies Canada

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

This new sublayer is intended in this project for support of 100GBASE-ZR which is a 100GBASE-Z PHY and might be used for 100GBASE-P PHYs as well. It could be used for 100GBASE-R PHYs.

SuggestedRemedy

Change sentence to:
"The Inverse RS-FEC sublayer specifies a Reed-Solomon Forward Error Correction (RS-FEC) sublayer for
100GBASE-R, 100GBASE-P, and 100GBASE-Z PHYs."

Response *Response Status* **C**

ACCEPT.

Cl **152** *SC* **152.5.1** *P* **61** *L* **47** # 118

Lewis, David — Lumentum

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

The caption for Fig 152-2 does not say what it is a function block diagram of.

SuggestedRemedy

Change caption to "Inverse RS-FEC sublayer functional block diagram".

Response *Response Status* **C**

ACCEPT.

Cl **152** *SC* **152.5.3.4** *P* **66** *L* **38** # 8

Bruckman, Leon — Huawei

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

It is strange that the the bit error ratio in the data received from the far-end PCS can be estimated by dividing the BIP block error ratio by something, if you already have a error ratio why divide it?. I saw the same wording in other 802.3 cluses, but it sounds strange.

SuggestedRemedy

Change: "The bit error ratio in the data received from the far-end PCS can be estimated by dividing the BIP block error ratio by a factor of 1 081 344.",

to: "The bit error ratio in the data received from the far-end PCS can be estimated by dividing the BIP block errors by a factor of 1 081 344."

Response *Response Status* **C**

REJECT.
This is nearly identical text to the final para of 91.5.2.4, and to 82.2.15 from which it was derived, and the suggested remedy is technically wrong. The BIP values are actually generated by the far end PCS, and the intervening transcode/trans-decode steps should restore the sequence of bits over which they are calculated in the absence of errors. The calculation converts a block error ratio (the number of BIP violations over a unit of time) to an equivalent bit-error ratio (the estimate of the number of bit errors over that equivalent unit of time). You can't simply divide a count of block errors by a fixed value to get a BER, not knowing whether that block error count was over one second or one hour.

Cl **152** *SC* **152.6.4** *P* **75** *L* **8** # 9

Bruckman, Leon — Huawei

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

The "FEC bypass indication ability" bit when set to a one one indicates that the bypass of the FEC error indication function can be bypass. See text in clause 91.6.2.

SuggestedRemedy

Change: "This variable is set to one to indicate that the decoder has the ability to bypass error indication.",

to: "This variable is set to one to indicate that the decoder has the ability to bypass error indication function."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change: "This variable is set to one to indicate that the decoder has the ability to bypass error indication.",

to: "This variable is set to one to indicate that the decoder has the ability to bypass the error indication function."

Cl **152** *SC* **152.6.7** *P* **75** *L* **26** # 10

Bruckman, Leon Huawei

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

Missing word

SuggestedRemedy

Change: "This variable assigned by the FEC alignment state diagram shown in Figure 91-9 (see 152.5.4.3).",

to: "This variable is assigned by the FEC alignment state diagram shown in Figure 91-9 (see 152.5.4.3)."

Response *Response Status* **C**

ACCEPT.

Cl **152** *SC* **152.7** *P* **77** *L* **2** # 43

Trowbridge, Steve Nokia

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

Need to replace vestigial "Clause 200" from the FrameMaker template with the actual clause number.

SuggestedRemedy

Change "Clause 200" to Clause 152" in the title of clause 152.7, and also on page 77 line 6, page 77 line 34.

Response *Response Status* **C**

ACCEPT.

Cl **153** *SC* **153.1.1** *P* **81** *L* **81** # 62

Brown, Matt Huawei Technologies Canada

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

"staircase" should not be capitalized.

SuggestedRemedy

Change "Staircase" to "staircase".

Response *Response Status* **C**

ACCEPT.

Cl **153** *SC* **153.2.1** *P* **82** *L* **12** # 11

Bruckman, Leon Huawei

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

fec_align_status is a noisy indication

SuggestedRemedy

Replace "fec_align_status" , with: "fecl_align_indication" twice in this sentence. Details of remedy are presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.1** *P* **82** *L* **16** # 63

Brown, Matt Huawei Technologies Canada

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

The text in this paragraph does not match the architecture. There are three cases to consider as follows.
Case #1: SC-FEC connects directly to the PCS.
Case #2: SC-FEC connects directly to the Inverse RS-FEC, RS-FEC, Clause 135 PMA, etc.
Case #3: SC-FEC is connected to a Clause 83 PMA then through a CAUI-4 or CAUI-10 to the PCS.

This paragraph should address both Case #2 and #3.

SuggestedRemedy

Replace the paragraph with the following:
"The PCS may be connected to the SC-FEC using a physical instantiation of the PMA service interface (see Annex 83A, Annex 83B, Annex 83D, and Annex 83E) in which case a PMA (see Clause 83) is a client of the FEC service interface."
"The PCS may be connected to the SC-FEC using a physical instantiation of the PMA service interface (see Annex 135E and Annex 135G) in which case an Inverse RS-FEC (see Clause 152) is a client of the FEC service interface."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **153** *SC* **153.2.3.2.4** *P* **85** *L* **16** # 12

Bruckman, Leon Huawei

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

GMP requires that carrier signal payload rate is larger than the carried signal rate. This is the case for 100GBASE-ZR of course, but it will be beneficial to indicate the carrier signal payload rate.

SuggestedRemedy

At the end of sentence: "The Payload area of the SC-FEC frame has a capacity of (255/227) × (3800 / 4080) × 99.5328 Gb/s ±20 ppm.", add: "(~104.1367 Gb/s)"

Response *Response Status* **C**

ACCEPT.

Cl **153** *SC* **153.2.3.2.4** *P* **85** *L* **50** # 13

Bruckman, Leon Huawei

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

Text needs to be fixed

SuggestedRemedy

Change: "...as the ratios of the two clock rates do not provide a case where...",

to: "...as the ratio of the two clock rates does not provide a case where."

Response *Response Status* **C**

ACCEPT.

Cl **153** *SC* **153.2.3.2.4** *P* **87** *L* **3** # 14

Bruckman, Leon Huawei

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

Text no clear

SuggestedRemedy

Change: "so this number are transmitted",

to: "so this amount of octets are transmitted"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change Change: "so this number are transmitted", to "so 189x80 octets are transmitted"

Cl **153** *SC* **153.2.3.2.7** *P* **88** *L* **37** # 64

Brown, Matt Huawei Technologies Canada

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

There is no specification for the FEC lane skew or PMA lane Skew Variation for the SC-FEC transmit output. It would be reasonable to use the same numbers used for the RS-FEC receive function (see Table 80-6 and Table 80-7).

SuggestedRemedy

Add the following sentence at the end of 153.2.3.2.7.
"At the output of the FEC transmit function the Skew between FEC lanes shall be no more than 49 ns and the Skew Variation between PMA lanes shall be no more than 0.4 ns."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **153** *SC* **153.2.3.3.1** *P* **88** *L* **41** # 15

Bruckman, Leon Huawei

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

Separate lane identification from alignment, add reference to the lane identification state diagram.

SuggestedRemedy

Details of remedy including propossed text for this clause is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

Draft 1.2 is technically complete with regard to SC-FEC lane alignment and synchronization. Nevertheless, there could be merit to separating the process descriptions for lane alignment and lane identification. Commenter is invited to build consensus for a complete and consistent proposal to be considered against Draft 2.0.

Cl **153** *SC* **153.2.3.3.1** *P* **88** *L* **46** # 65

Brown, Matt — Huawei Technologies Canada

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

The "support" of Skew and Skew Variation is ambiguous. Presumable this means tolerance of Skew and Skew Variation. Also, the numbers are still TBD; it would be reasonable to use the same numbers used for the RS-FEC receive function (see Table 80-6 and Table 80-7).

SuggestedRemedy

Change the sentence to: "The FEC receive function shall tolerate a maximum Skew of 180 ns between FEC
lanes and a maximum Skew Variation of 4 ns between PMA lanes."

Response *Response Status* **C**

ACCEPT.

Cl **153** *SC* **153.2.3.3.5** *P* **89** *L* **34** # 16

Bruckman, Leon — Huawei

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

Since OTN devices may be used to implement the 100GBASE-ZR, and these devices support Cm values other than 188 and 189, there may be failure cases in which the GMP receiver receives values that are different from the ones in Table 153-1. What should the GMP demmaper do in this case ? Also what is expected the GMP demapper to do if DI=II=1 ?
On the other hand, there may be implementations based on OTN receivers that will be able to handle the situation, but there may also be 100GBASE-ZR targeted reduced functionality implementations that only accept the values specified in Table 153-1.

SuggestedRemedy

Add the following sentence: "If a C13:C0 value other than 188 or 189, or DI=1 and II=1 is received, the GMP demapper behavior is undefined."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement the proposed resolution.

There is no harm in adding this sentence, although while the GMP mechanism is generic, there is no standardized mapping of a client other than 100GBASE-R directly into OPU4 via GMP. So any OTN kit that implements GMP mapping of a client into OPU4 should only be generating the indicated values)

Cl **153** *SC* **153.2.3.3.6** *P* **89** *L* **43** # 17

Bruckman, Leon — Huawei

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

There should be an indication to the upper layer if block lock is not achieved, but according to clause 153.2.1 the SIGNAL_OK parameter of the FEC:IS_SIGNAL.indication depends only on the FEC alignment indication.

SuggestedRemedy

Add the clause 82.2.19.2.2 rx_blobk_lock indication to the SIGNAL_OK parameter defined in 153.2.1. Details of remedy including propossed text for this clause is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.1.1** *P* **90** *L* **12** # 19

Bruckman, Leon — Huawei

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

New variables are needed according to the update of the deskew state diagram propossed in bruckman_3ct_01_0320.

SuggestedRemedy

Add the following variables: fas_status, alignment_valid and fec_enable_deskew. Details of remedy including propossed text for these variables is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.1.1** *P* **90** *L* **12** # 20

Bruckman, Leon — Huawei

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

A new variable is needed for the SIGNAL OK indication state diagram propossed in bruckman_3ct_01_0320.

SuggestedRemedy

Add the following variable: fec_align_indication. Details of remedy including propossed text for this variable is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.1.1** *P* **90** *L* **12** # 18

Bruckman, Leon Huawei

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

New variables are needed according to the state diagrams propossed for the lane identification separation from the alignment process.

SuggestedRemedy

Add the following variables: fecl_valid and lane_id_detected<x>. Details of remedy including propossed text for these variables is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.1.1** *P* **90** *L* **19** # 21

Bruckman, Leon Huawei

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

In the new state diagram described in bruckman_3ct_01_0320 there is no need for fas_match.

SuggestedRemedy

Remove fas_match

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.1.1** *P* **90** *L* **22** # 22

Bruckman, Leon Huawei

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

fas_valid needs to be updated according to the state diagrams propossed for the lane identification separation from the alignment process.

SuggestedRemedy

Details of remedy including propossed text for this variable is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.1.1** *P* **90** *L* **29** # 23

Bruckman, Leon Huawei

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

current_fecl needs to be updated according to the state diagrams propossed for the lane identification separation from the alignment process.

SuggestedRemedy

Details of remedy including propossed text for this variable is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.1.1** *P* **90** *L* **41** # 24

Bruckman, Leon Huawei

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

fec_lane needs to be updated according to the state diagrams propossed for the lane identification separation from the alignment process.

SuggestedRemedy

Details of remedy including propossed text for this variable is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.2** *P* **91** *L* **15** # 25

Bruckman, Leon Huawei

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

In the new state diagram described in bruckman_3ct_01_0320 there is no need for the FAS_COMPARE function.

SuggestedRemedy

Remove the FAS_COMPARE function

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.3** *P* **91** *L* **27** # 26

Bruckman, Leon Huawei

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

A new counter is needed for the alignmnet loss state diagram propossed in bruckman_3ct_01_0320 to keep the FAS position during loss of alignment

SuggestedRemedy

Add the following counter: fas_in_counter. Details of remedy including propossed text for this counter is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.3** *P* **91** *L* **27** # 28

Bruckman, Leon Huawei

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

New counters are needed for the SIGNAL OK state diagram propossed in bruckman_3ct_01_0320.

SuggestedRemedy

Add the following counters: align_ok_count and align_bad_count. Details of remedy including propossed text for these counters is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.3** *P* **91** *L* **27** # 27

Bruckman, Leon Huawei

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

New counters are needed for the lane identification state diagram propossed in bruckman_3ct_01_0320.

SuggestedRemedy

Add the following counters: fecl_ok_count and fecl_bad_count. Details of remedy including propossed text for these counters is presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.4** *P* **91** *L* **35** # 29

Bruckman, Leon Huawei

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

The SIGNAL_OK parameter of the FEC:IS_SIGNAL.indication primitive is driven by fec_align_status.
fec_align_status is false if any lane looses alignment, but this happens frequently due to pre-FEC high BER. According to the text in this case receiver may be impaired frequently.

SuggestedRemedy

Add a stability state diagram for the fec_align_status variable. Details of remedy including the state diagram are presented in contribution bruckman_3ct_01_0320

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.4** *P* **92** *L* **13** # 87

Maniloff, Eric Ciena

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

FAS_COMPARE should read COMP to be consistent with the left side of the block diagram

SuggestedRemedy

Change to COMP

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change the state name in the box on the right side, line 13 from FAS_COMPARE to COMP

Cl **153** *SC* **153.2.4.4** *P* **92** *L* **14** # 88

Maniloff, Eric Ciena

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

FAS_COMPAR is a typo

SuggestedRemedy

change FAS_COMPAR to FAS_COMPARE

Response *Response Status* **C**

ACCEPT.

Cl **153** *SC* **153.2.4.4** *P* **92** *L* **47** # 30

Bruckman, Leon Huawei

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

New state diagrams are needed to separate the lane identification from the alignment process.

SuggestedRemedy

New state diagrams are presented in contrbution bruckman_3ct_01_0320

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.4.4** *P* **93** *L* **3** # 31

Bruckman, Leon Huawei

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

Several issues with the SC-FEC deskew state diagram: fasalign_status and all_fas_valid are not defined, fec_enable_deskew is always false.

SuggestedRemedy

A updated SC-FEC deskew state diagram is presented in contrbution bruckman_3ct_01_0321

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In Figure 153-8, change fasalign_status to all_locked, and change all_fas_valid to fec_alignment_valid (4 occurrences).

Cl **153** *SC* **153.2.4.4** *P* **93** *L* **3** # 32

Bruckman, Leon Huawei

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

fec_enable_deskew is not defined

SuggestedRemedy

Define fec_enable_deskew as follows: "A Boolean variable that enables and disables the deskew process. The alignment start shall be maintained when fec_align_status is false. It is set to true when deskew is enabled and set to false when deskew is disabled."

The definition is similar to the fec_enable_deskew variable definition in 91.5.4.2.1, without allowing bits to be discarded during the deskew process to avoid communication impairment during the frequent synchronization losses (due to pre-FEC BER).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Define fec_enable_deskew as follows: "A boolean variable that indicates the enabling and disabling of the deskew process. Data may be discarded whenever deskew is enabled. True when deskew is enabled. False when deskew is disabled."
In Figure 153-8 in the state LOSS_OF_ALIGNMENT, change "fec_enable_deskew<=false" to "fec_enable_deskew<=true"

Cl **153** *SC* **153.2.5** *P* **94** *L* **10** # 36

Bruckman, Leon Huawei

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

Lane identification shall be separated from lane lock, add the lane identification status.

SuggestedRemedy

Add the lane identification row to Table 153-2 after the second row. Details of remedy are presented in contribution bruckman_3ct_01_0320.

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.5.2** *P* **93** *L* **39** # 33

Bruckman, Leon Huawei

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

Text not clear

SuggestedRemedy

Change: "An uncorrected FEC codeword is a codeword contains errors",

to: "An uncorrected FEC codeword is a codeword that contains errors"

Response *Response Status* **C**

ACCEPT.

Cl **153** *SC* **153.2.5.3** *P* **94** *L* **1** # 34

Bruckman, Leon Huawei

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

Lane identification validity MDIO control vailables are needed for the lane identification separation from the alignment process.

SuggestedRemedy

Add SC-FEC line identification status 1 and 2 registers, as detailed in contribution bruckman_3ct_01_0320

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.2.5.3** *P* **94** *L* **8** # 35

Bruckman, Leon Huawei

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

SC-FEC align status shall be driven by the stable fec alignment indication

SuggestedRemedy

Replace fec_align_status with the new variable fec_align_indication (used in the SIGNAL OK stability state diagram, see bruckman_3ct_01_0320)

Response *Response Status* **C**

REJECT.

See response to comment 15.

Cl **153** *SC* **153.3.1** *P* **94** *L* **48** # 37

Bruckman, Leon Huawei

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

The SC-FEC not only sends 20 parallel bit streams to the 100GBASE-ZR PMA sublayer, it also receives 20 parallel bit streams from the PMA sublayer.

SuggestedRemedy

After the end of sentence: "SC-FEC continuously sends.", add: "Likewise the 100GBASE-ZR PMA sublayer continuously sends 20 parallel bit streams to the SC-FEC sublayer."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add to the end of the paragraph "Likewise the 100GBASE-ZR PMA sublayer continuously sends 20 parallel bit streams to the SC-FEC sublayer, each at a nominal signaling rate of (255/227) × 4.97664 Gb/s ±20 ppm (~5.59049868 Gb/s)."

Cl **153** *SC* **153.3.2** *P* **96** *L* **0** # 66

Brown, Matt Huawei Technologies Canada

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

Skew tolerance and generation are not specified for the PMA, but are essential budgeting end to end skew. Normally, for new 100GBASE PHYs we would simply refer back to 80.5, however, the stack for 100GBASE-ZR is a bit different and the PMA is different in various ways.

SuggestedRemedy

Define skew points in a similar way as for 100GBASE-R/P in 80.5. A presentation will be provided with background and proposals.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **153** *SC* **153.3.2.2.2** *P* **95** *L* **50** # 38

Bruckman, Leon Huawei

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

Text not clear

SuggestedRemedy

Change: "The selection of the two lanes of the four-lane interface is used to form each stream of DQPSK symbols is arbitrary",

to: "The selection of the two lanes of the four-lane interface used to form each stream of DQPSK symbols is arbitrary"

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **6** *P* **107** *L* **25** # 96

DeAndrea, John Finisar II-VI

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

This sentence is unclear, "However, it does not enable interoperability at multichannel points between the optical multiplexer and demultiplexer that are likely to be included in the black link" What are multichannel points? If a single channel is only supported through one transfer characteristics, then mentioning interoperability through multichannel points is not needed.

SuggestedRemedy

Drop sentaence.

Response *Response Status* **C**

REJECT.
The quoted sentence refers to an essential characteristic of the black link, that it contains points where more than one channel is present in the fiber and that at those points the interoperability is not supported by the specification.

Cl **154** *SC* **7.2** *P* **111** *L* **11** # 97

DeAndrea, John Finisar II-VI

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

TBD value for receiver damage threshold.

SuggestedRemedy

For amplified links, 48 channel system can have 48 channels launched at +1 dbm for 80 km link. Total amplified power for +1 dBm launch power, 48 channels, 17.8 dBm total power is realized. Occassionally, mistakes are made, and this total power is applied to a receiver without a DeMux or fiber span. Suggest using 18 dBm as maximum damage threshold for receiver damage threshold.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The TBD was addressed in comment 77 however is not attempting to cover misconnections from inside the black link directly into the receiver.

Cl **154** *SC* **8.1** *P* **110** *L* **52** # 98

DeAndrea, John Finisar II-VI

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

Specific test patterns are not required, based on Clause 153.2.3.2.5 SC-FEC encoder, and Clause 153.2.3.2.6 Scrambler for dual polarization optical signals. The scrambler and dual carrier channels provide enogh randomization for optical signal parameter messurment and compliance.

SuggestedRemedy

Modify 154.8.1 to: "Compliance is to be achieved in normal operation, and Clause 153.2.3.2.5 SC-FEC encoder, and Clause 153.2.3.2.6 Scrambler, provide a sufficient pseudo random signal for transmit parameter measurments."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **154** *SC* **8.1** *P* **112** *L* **6** # 90

DeAndrea, John Finisar II-VI

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

"Any of the test patterns given for a particular test in Table 154-12 may be used to perform that test." is not needed

SuggestedRemedy

Remove sentance

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **154** *SC* **8.1** *P* **112** *L* **16** # 91

DeAndrea, John Finisar II-VI

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

TBD not required

SuggestedRemedy

Eliminate TBD

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **154** *SC* **8.1** *P* **112** *L* **19** # 92

DeAndrea, John Finisar II-VI

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

Consider dropping table

SuggestedRemedy

Drop table since a specific pattern is not required for testing transmitter characteristics.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **154** *SC* **8.2** *P* **112** *L* **33** # 93

DeAndrea, John Finisar II-VI

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

eliminate sentance.

SuggestedRemedy

eliminate sentance "The transmitter is modulated using the test pattern defined in Table 154-12."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **154** *SC* **8.3** *P* **112** *L* **38** # 94

DeAndrea, John Finisar II-VI

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

Modify

SuggestedRemedy

Change to: "The average optical power is measured per the test setup in Figure 53-6."

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **154** *SC* **9.1** *P* **114** *L* **51** # 95

DeAndrea, John Finisar II-VI

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

Modify sentence

SuggestedRemedy

Change to: "whether coupled into a fiber or from an open MDI active output"

Response *Response Status* **C**

REJECT.
No evidence / description has been provided why the current sentence is wrong or inappropriate.
The current sentence is completely consistent with similar sentences in in-force optical clauses.

Cl **154** *SC* **154.3.2** *P* **102** *L* **48** # 73

Stassar, Peter Huawei

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

TBD for skew at SP2, SP3, SP4 and SP5 needs a value and additionally the ssentences that there is no skew variation need to be removed because of the presence of 2 lanes, each at 50 Gb/s

SuggestedRemedy

Replace text by "Skew at SP2 is limited to 43 ns and the Skew Variation at SP2 is limited to 400 ps.The Skew at SP3 (the transmitter MDI) shall be less than 54 ns and the Skew Variation at SP3 shall be less than 600 ps. The Skew at SP4 (the receiver MDI) shall be less than 134 ns and the Skew Variation at SP4 shall be less than 3.4 ns. If the PMD service interface is physically instantiated so that the Skew at SP5 can be measured, then the Skew at SP5 shall be less than 145 ns and the Skew Variation at SP5 shall be less than 3.6 ns."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement suggested remedy with editoral license.

In addition remove sentence "The measurements of Skew and Skew Variation are defined in TBD with the exception that the measurement clock and data recovery unit high frequency corner bandwidth is TBD MHz." Also remove associated editor's note and related editor's note in 80.5.

Cl **154** *SC* **154.5.2** *P* **104** *L* **41** # 39

Bruckman, Leon Huawei

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

Text not clear

SuggestedRemedy

Change: "The PMD Transmit function shall convert the two DQPSK symbol streams requested by the PMD service interface messages PMD:IS_UNITDATA_0.request to PMD:IS_UNITDATA_1.request into two DQPSK optical signals on orthogonal polarizations and delivered to the MDI,",

to: "The PMD Transmit function shall convert the two DQPSK symbol streams requested by the PMD service interface messages PMD:IS_UNITDATA_0.request to PMD:IS_UNITDATA_1.request into two DQPSK optical signals on orthogonal polarizations and deliver them to the MDI,"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See resolution to comment #67

Cl **154** *SC* **154.5.2** *P* **104** *L* **44** # 67

Brown, Matt Huawei Technologies Canada

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

The change made in D1.2 is incorrect. It is a stream of DPQSK symbols transferred via the tx_symbol parameter. Although tx_symbol is earlier defined in the referenced 116.3 its reference here is somewhat mysterious.

SuggestedRemedy

Change 154.5.2. to the following:
"The PMD Transmit function shall convert the two DQPSK symbol streams requested by the PMD service
interface messages PMD:IS_UNITDATA_0.request(tx_symbol) and PMD:IS_UNITDATA_1.request(tx_symbol) into two DQPSK
optical signals on orthogonal polarizations and delivered to the MDI, all according to the transmit optical
specifications in this clause.
The PMD maps symbols from each tx_symbol parameter to phase changes to each of the DQPSK optical signals as specified in Table 154-4.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change to "The PMD Transmit function shall convert the two DQPSK symbol streams requested by the PMD service interface messages PMD:IS_UNITDATA_0.request(tx_symbol) and PMD:IS_UNITDATA_1.request(tx_symbol) into two DQPSK optical signals on orthogonal polarizations and be delivered to the MDI, all according to the transmit optical specifications in this clause.
The PMD maps symbols from each tx_symbol parameter to phase changes to each of the DQPSK optical signals as specified in Table 154-4."

Cl **154** *SC* **154.5.3** *P* **105** *L* **39** # 68

Brown, Matt — Huawei Technologies Canada

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

The change made in D1.2 is incorrect. It is a stream of DPQSK symbols transferred via the rx_symbol parameter. Although rx_symbol is earlier defined in the referenced 116.3, its reference here is somewhat mysterious. The list of primitives is two so connector should be "and" not "to".

SuggestedRemedy

Change the text in 154.5.3 to:
The PMD Receive function shall convert the composite optical signal received from the MDI into two
DQPSK symbol streams for delivery to the PMD service interface using the messages PMD:IS_UNITDATA_
0.indication(rx_symbol) and PMD:IS_UNITDATA_1.indication(rx_symbol), all according to the receive optical specifications in this clause.
The PMD maps the phase changes on each of the DQPSK optical signals to symbols on each rx_symbol parameter as specified in Table 154-4.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change to:
"The PMD Receive function shall convert the composite optical signal received from the MDI into two DQPSK symbol streams for delivery to the PMD service interface using the messages PMD:IS_UNITDATA_
0.indication(rx_symbol) and PMD:IS_UNITDATA_1.indication(rx_symbol), all according to the receive optical specifications in this clause.
The PMD maps the phase changes on each of the retrieved DQPSK signals to symbols on each rx_symbol parameter as specified in Table 154-4."
and the last sentence of 154.5.3 to:
"Table 154-4 shows the mapping of the phase change of the retrieved DQPSK signals to the DQPSK rx_symbol streams for delivery to the PMD service interface."

With editorial license.

Cl **154** *SC* **154.5.4** *P* **105** *L* **48** # 69

Brown, Matt — Huawei Technologies Canada

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

Although the service interface in 116.3 is used as a basis for specification, subclause 154.2 (which specifies the service interface for this PMD) further elaborates (e.g., number of leans, SIGNAL_OK parameter values, etc.) the details. Should reference 154.2 instead.

SuggestedRemedy

Change "116.3" to "154.2".

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.5.4** *P* **106** *L* **6** # 74

Stassar, Peter — Huawei

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

TBD for Signal_Detect Fail needs a value. Considering that this Clause primary objective is to achieve distances up to at least 80 km on the basis of an optically amplified black liink it is proposed to use the common average power value of -30 dBm and add a note that for unamplifed cases a lower threshold may be necessary

SuggestedRemedy

Replace TBD by "-30" and add a note "for applications on unamplified links it may be necessary to use a lower value".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace TBD by "-30"

Cl **154** *SC* **154.5.4** *P* **106** *L* **9** # 46

Maguire, Valerie — The Siemon Company

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

Should "(compliant 100GBASE-R)]" be on the same line as "AND"?

SuggestedRemedy

Remove extraneous carriage return or correct as needed.

Response *Response Status* **C**

REJECT.

The carriage returns are in place to clearly identify the terms that are operated on by the "AND". It is also consistent with preceeding clauses.

Cl **154** *SC* **154.5.4** *P* **106** *L* **20** # 75

Stassar, Peter — Huawei

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

The TBD needs to be replaced by describing a condition of the signal that is being monitored

SuggestedRemedy

Replace "in response to the TBD of the optical signal and implementations that respond to the average optical power of the modulated optical
signal." by "in response to the average optical power of the modulated optical signal."

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.7.1** *P* **109** *L* **49** # 40

Bruckman, Leon Huawei

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

"Minimum channel spacing" is not defined.

SuggestedRemedy

"Minimum channel spacing" is defined in ITU-T G.671 clause 3.2.3.17 as: "The centre-to-centre difference in frequency or wavelength between adjacent channels in a WDM device. DWDM channel spacings are based on the grid found in [ITU-T G.694.1]. CWDM channel spacings are based on the grid found in [ITU-T G.694.2].".

So in clause 154.8 it can be defined as: "The minimum channel spacing, as defined in Recommendation ITU-T G.671, shall be within the limits given in Table 154-8."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See resolution to comment #84

Cl **154** *SC* **154.7.1** *P* **110** *L* **5** # 76

Stassar, Peter Huawei

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

The TBD for Average channel output power (max) needs a value. Proposed is 0 dBm, leaving a setting range of 8 dB, sufficient to meet the requirements for the 80 km application, in line with remarks made during previous meetings that for most implementations the optical output power can be easily adjusted.

SuggestedRemedy

Replace TBD by "0" (zero)

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.7.1** *P* **110** *L* **5** # 99

Schmitt, Matt CableLabs

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

For the TBD value of "Average channel output power (max)" in Table 154-8, propose adopting the same value as the CableLabs PHYv1.0 specification, which was selected as a safety threshold (as opposed to a power level anyone thought would ever be used).

SuggestedRemedy

Change "TBD" to "7" for "Average channel output power (max)" in Table 154-8.

Response *Response Status* **C**

REJECT.

See resolution to comment #76

Cl **154** *SC* **154.7.1** *P* **110** *L* **26** # 119

Lewis, David Lumentum

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

Optical return loss tolerance should be a minimum value, not maximum. For example, a return loss from the black link of 24 dB would result in more power reflected back into the transmitter and a return loss from the black link of 26 dB would result in less power reflected back into the transmitter. Therefore the limit value of 25 dB is a minimum, not a maximum.

SuggestedRemedy

Change description to "Optical return loss tolerance (min)"

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **154** *SC* **154.7.2** *P* **111** *L* **11** # 77

Stassar, Peter Huawei

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

The TBD needs to be replaced by a value. It is suggested to specify 3 dBm, which is 3 dB above the proposed Tx average output power.

SuggestedRemedy

Replace TBD by "3"

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.7.3** *P* **111** *L* **36** # 78

Stassar, Peter Huawei

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

At the January 2020 meeting in Geneva it was agreed to set the maximum chromatic dispersion to 1600 ps/nm. This is appropriate for black links containing 80 km of G.652 fiber. ITU-T SG15 at its recent closing plenary meeting 7 Feb 2020 consented revised Recommendation G.654, adding new fiber type G.654.E, optimized for low loss, but with somewhat higher chromatic dispersion values. This new fiber type should not be precluded for usage inside the black link, because it may be appealing for operators/users. The worst case chromatic dispersion over the wavelength range of interest is 24.14 ps/nm, leading to a worst case link dispersion of 1931 ps/nm. 2000 ps/nm would be an appropriate rounded number for 80 km links. The relevant ITU-T Recommendations provide a difference in maximum attenuation of 0.05 dB/km, implying a loss difference of 4 dB over 80 km.

SuggestedRemedy

Replace 1600 by 2000

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.7.3** *P* **111** *L* **36** # 86

Stassar, Peter Huawei

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

The term "residual" between brackets in the parameter name "(residual) chromatic dispersion" may be confusing and imply usage of dispersion compensation inside the black link, which is unlikely in the anticipated applications. Therefore it is proposed to remove "(residual)".

SuggestedRemedy

Remove "(residual)" in both parameter entries in Table 154-10.

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.7.3** *P* **111** *L* **37** # 79

Stassar, Peter Huawei

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

A dispersion of -200 ps/nm will occur only when using G.653 (dispersion shifted) fibers, which are not anticipated to be used in C-band applications. Therefore the minimum chromatic dispersion should be 0 ps/nm for 0 km.

SuggestedRemedy

Replace -200 by 0 (zero)

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.7.3** *P* **111** *L* **39** # 80

Stassar, Peter Huawei

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

The parameter "Fiber zero dispersion wavelength" does not seem to useful. Should be deleted

SuggestedRemedy

Delete row for "Fiber zero dispersion wavelength" from Table

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete row for "Fiber zero dispersion wavelength" from Table 154-10

Cl **154** *SC* **154.7.3** *P* **111** *L* **40** # 81

Stassar, Peter Huawei

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

The TBD for "Fiber dispersion slope (max) (S0)" needs to be replaced by a value. 0.05 ps/nm.nm.km is an appropriate minimum for both G.652 and G.654.E fibers avoiding occurrence of FWM

SuggestedRemedy

Replace TBD by 0.05

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In table 154-10 replace for parameter fiber dispersion slope replace (max) by (min). Replace TBD by 0.05.

Cl **154** *SC* **154.7.3** *P* **111** *L* **42** # 82

Stassar, Peter Huawei

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

There should be a value 0f 25 dB for "Minimum optical return loss at TP2" in accordance with agreed resolution to comment #88 to D1.1. at the January 2020 meeting in Geneva

SuggestedRemedy

Replace TBD by 25

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace TBD by 25 in Table 154-10.

Also remove the final row in Table 154-10 due to duplication.

Cl **154** SC **154.7.3** P **111** L **43** # 83

Stassar, Peter Huawei

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

Because the medium is a black link there should not be a requirement for "Maximum discrete reflectance between TP2 and TP3"

SuggestedRemedy

Delete row for "Maximum discrete reflectance between TP2 and TP3" from Table

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 104

Cl **154** SC **154.8.1** P **111** L **1** # 100

Schmitt, Matt CableLabs

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

Shouldn't Table 154-9 be in Sub-clause154.7.2 as in previous drafts? Is there a reason that it isn't inline with that text? If not, it should be moved there.

SuggestedRemedy

Move Table 154-9 back into sub-clause 154.7.2.

Response *Response Status* **C**

ACCEPT.

Cl **154** SC **154.8.1** P **111** L **11** # 102

Schmitt, Matt CableLabs

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

For the TBD value of "Damage threshold" in Table 154-9, the most energy that could hit the receiver if a transmitter and receiver are connected back to back would nominally be the same as the max output from the transmitter as defined in Table 154-8. However, if the signal were fed into an optical ampplifier before being connected to the receiver it could be much higher. Therefore, for additional safety in this case, propose setting the value to +18 dBm.

SuggestedRemedy

Change "TBD" to "18" for "Damage threshold" in Table 154-9.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #77.

Cl **154** SC **154.8.1** P **111** L **29** # 101

Schmitt, Matt CableLabs

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

Shouldn't Table 154-10 be in Sub-clause 154.7.3 as in previous drafts? Is there a reason it isn't inline with that text? If not, it should be moved there.

SuggestedRemedy

Move Table 154-10 back into sub-clause 154.7.3.

Response *Response Status* **C**

ACCEPT.

Cl **154** SC **154.8.1** P **111** L **42** # 103

Schmitt, Matt CableLabs

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

In table 86-10, Optical Return Loss is defined as being measured at point TP2 looking downstream into the fiber. Therefore, having "Optical return loss" in Table 154-8 and "Optical return loss at TP2" in Table 154-10 is redundant, since they are both the same thing measured at the same point (one implicitly, one explicitly). To be consistent with other usage in 802.3, propose keeping "Optical return loss" in Table 154-8, and removing "Optical return loss at TP2" from Table 154-10.

SuggestedRemedy

Delete the row from Table 154-10 for "Optical return loss at TP2".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "Optical return loss" in Table 154-8 and leave it in Table 154-10.

Cl **154** SC **154.8.1** P **111** L **43** # 104

Schmitt, Matt CableLabs

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

Per the contribution stassar_3ct_01_200213, propose to remove "Maximum discrete reflectance between TP2 and TP3" from Table 154-10.

SuggestedRemedy

Delete the row from Table 154-10 for "Maximum discrete reflectance between TP2 and TP3".

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.8.1** *P* **112** *L* **15** # 121

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

The last entry in Table 154-11 is TBD. There are no other defined test patterns.

SuggestedRemedy

1. Delete the contents of the entire row for the "TBD" entry
2. Rename Table 154-11 to "Test Pattern"

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.8.1** *P* **112** *L* **18** # 123

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

The title for Table 154-12 seems incorrect. The lTest pattern definitions are inTable 154-11. What is actually being defined is the test patterns during testing of optical paramaeters

SuggestedRemedy

Change title of Table 154-12 to "Optical Parameter Test-pattern definitions and related subclauses.

Response *Response Status* **C**

REJECT.

The current title is consistent with existing in-force clauses.

Cl **154** *SC* **154.8.1** *P* **112** *L* **22** # 122

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

There has only been one test pattern defined in Table 154- in that can be used in Table 154-12 for the optical parameters.

SuggestedRemedy

Change TBD in all optical paramaeter entries to Pattern 5.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See resolution to comment #120.

Cl **154** *SC* **154.8.1** *P* **112** *L* **27** # 120

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

The last entry in Table 154-12 is TBD. There are no other test parameters requiring a test pattern definition pointing to Table 154-12 in the draft

SuggestedRemedy

Delete the contents of the entire row for the "TBD" entry

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement slides 5 and 6 of stassar_ct_01_200416 with editorial license.

Cl **154** *SC* **154.8.13** *P* **113** *L* **47** # 89

Maniloff, Eric — Ciena

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

The reach will likely be limited to < 80km for the unamplified case due to the input power restriction, not the OSNR. So the comment "The associated channel loss will likely limit the maximum
reach of these applications to less than 80 km specified for amplified applications." should be in clause 154.8.13 rather than 154.8.15

SuggestedRemedy

Move the text "The associated channel loss will likely limit the maximum
reach of these applications to less than 80 km specified for amplified applications." from clause 154.8.15 to 154.8.13

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt slides 15 and 16 from Schmitt_3ct_01_200402.pdf.

Cl **154** *SC* **154.9.1** *P* **114** *L* **44** # 106

Nicholl, Gary Cisco systems

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

P802.3cr is harmonizing general safety references across all of IEEE 802.3 in Annex J. P802.3cr is in the 1st WG ballot recirculation and is likely to complete the ballot cycle prior to P802.3ct. Coordination between TFs and the P802.3cr project should be maintained to keep this material in sync.

SuggestedRemedy

Change "All equipment subject to this clause shall conform to IEC 60950-1." to "All equipment subject to this clause shall conform to the general safety requirements as specified in J.2". Add Editor's Note to be removed prior to SA ballot to align text with changes to P802.3cr.

Response *Response Status* **C**

ACCEPT.

Cl **154** *SC* **154.11** *P* **117** *L* **1** # 107

Nicholl, Gary Cisco systems

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

If Annex J is inserted in 154.9.1 then the PICs require updating.

SuggestedRemedy

Add "General Safety" PICS entry and use "Conforms to J.2" for Value/format.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Modify any "General Safety" entries in response to comment 125 to "Conforms to J.2" for Value/Comment.

Cl **154** *SC* **154.11.13** *P* **118** *L* **1** # 125

Issenhuth, Tom Huawei

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

The PICs tables starting in 154.11.3 are incomplete.

SuggestedRemedy

Complete the required PICS tables with the information from issenhuth_3ct_04_0320

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use tables in issenhuth_ct_01_200416 to complete the PICS entries with editoral license.

If an entry for "General Safety" is added, align the Value/Comment with the Value/Comment from comment 107.