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

Brown, Matt — Huawei Technologies Canada

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

spelling

*SuggestedRemedy*

Change "EEE" to "IEEE"

*Proposed Response* *Response Status* **O**

*Cl* **00** *SC* **0** *P* **61** *L* **47** # 118

Lewis, David — Lumentum

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

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".

*Proposed Response* *Response Status* **O**

*Cl* **00** *SC* **0** *P* **110** *L* **26** # 119

Lewis, David — Lumentum

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

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* **O**

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

Nicholl, Gary — Cisco systems

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

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

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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
regulations.
This IEEE document is made available for use subject to important notices and legal disclaimers. These
notices and disclaimers appear in all publications containing this document and may be found under the
heading “Important Notice” or “Important Notices and Disclaimers Concerning IEEE Documents.”
They can also be obtained on request from IEEE or viewed at
http://standards.ieee.org/IPR/disclaimers.html

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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]."

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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)

*Proposed Response* *Response Status* **O**

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

Brown, Matt Huawei Technologies Canada

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

only one defintion

*SuggestedRemedy*

Change "definitions" to "definition"

*Proposed Response* *Response Status* **O**

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

Maguire, Valerie The Siemon Company

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

802.3cg has published.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Issenhuth, Tom Huawei

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

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"

*Proposed Response* *Response Status* **O**

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

Maguire, Valerie The Siemon Company

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

802.3cg has published.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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)."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Maguire, Valerie — The Siemon Company

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

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 ",".

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

Extra space between "and " and "in"

*SuggestedRemedy*

Delete extra space.

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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."

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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:"

*Proposed Response* *Response Status* **O**

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

Trowbridge, Steve — Nokia

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

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:"

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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

*SuggestedRemedy*

Delete all underlining in Table 80-4b

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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

*SuggestedRemedy*

Add a column for Clause 135.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Trowbridge, Steve — Nokia

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

There are no changes marked in the paragraph.

*SuggestedRemedy*

Underline the last sentence.

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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

*SuggestedRemedy*

Use strikethrough for the extra space after the "and"

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

Missing underline, under space.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

Fix amendment markup.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

There should be no underline in editing instruction

*SuggestedRemedy*

Remove underline in editing instruction

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

Underlined text is not required here.

*SuggestedRemedy*

Remove underline on "Figure 80-4a".

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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)"

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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.

*Proposed Response* *Response Status* **O**

---

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

Maguire, Valerie — The Siemon Company

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

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.

*Proposed Response* *Response Status* **O**

---

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

Brown, Matt — Huawei Technologies Canada

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

Improper editor's note.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

Editing instruction should refer to the inserted subclause.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

---

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

Brown, Matt — Huawei Technologies Canada

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

Editing instruction should refer to the inserted subclause.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

---

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

Brown, Matt — Huawei Technologies Canada

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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".

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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)."

*Proposed Response* *Response Status* **O**

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

Trowbridge, Steve — Nokia

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

"staircase" should not be capitalized.

*SuggestedRemedy*

Change "Staircase" to "staircase".

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

The text in this parapraph 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* **O**

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

Bruckman, Leon — Huawei

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

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)"

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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…"

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

Text no clear

*SuggestedRemedy*

Change: "so this number are transmitted",

to: "so this amount of octets are transmitted"

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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* **O**

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

Bruckman, Leon — Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon — Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

New variables are needed according to the state diagrams proposed 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 proposed text for these variables is presented in contribution bruckman_3ct_01_0320.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*SuggestedRemedy*

Remove fas_match

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Maniloff, Eric Ciena

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

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

*SuggestedRemedy*

Change to COMP

*Proposed Response* *Response Status* **O**

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

Maniloff, Eric Ciena

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

FAS_COMPAR is a typo

*SuggestedRemedy*

change FAS_COMPAR to FAS_COMPARE

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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).

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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"

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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)

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Brown, Matt Huawei Technologies Canada

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

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* **O**

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

Bruckman, Leon Huawei

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

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"

*Proposed Response* *Response Status* **O**

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

DeAndrea, John Finisar II-VI

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

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.

*Proposed Response* *Response Status* **O**

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

DeAndrea, John Finisar II-VI

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

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.

*Proposed Response* *Response Status* **O**

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

DeAndrea, John Finisar II-VI

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

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* **O**

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

DeAndrea, John Finisar II-VI

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

"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* **O**

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

DeAndrea, John Finisar II-VI

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

TBD not required

*SuggestedRemedy*

Eliminate TBD

*Proposed Response* *Response Status* **O**

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

DeAndrea, John Finisar II-VI

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

Consider dropping table

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

DeAndrea, John Finisar II-VI

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

eliminate sentance.

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

DeAndrea, John Finisar II-VI

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

Modify

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

DeAndrea, John Finisar II-VI

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

Modify sentence

*SuggestedRemedy*

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

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

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,"

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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.

*Proposed Response* *Response Status* **O**

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

Brown, Matt — Huawei Technologies Canada

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

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".

*Proposed Response* *Response Status* **O**

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

Stassar, Peter — Huawei

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

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".

*Proposed Response* *Response Status* **O**

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

Maguire, Valerie — The Siemon Company

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

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

*SuggestedRemedy*

Remove extraneous carriage return or correct as needed.

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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."

*Proposed Response* *Response Status* **O**

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

Bruckman, Leon Huawei

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

"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."

*Proposed Response* *Response Status* **O**

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

Schmitt, Matt CableLabs

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

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.

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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)

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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"

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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.

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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)

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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

*SuggestedRemedy*

Delete row for "Fiber zero dispersion wavelength" from Table

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Stassar, Peter Huawei

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

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

*Proposed Response* *Response Status* **O**

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

Schmitt, Matt — CableLabs

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

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.

*Proposed Response* *Response Status* **O**

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

Schmitt, Matt — CableLabs

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

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.

*Proposed Response* *Response Status* **O**

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

Schmitt, Matt — CableLabs

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

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.

*Proposed Response* *Response Status* **O**

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

Schmitt, Matt — CableLabs

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

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".

*Proposed Response* *Response Status* **O**

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

Schmitt, Matt — CableLabs

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

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".

*Proposed Response* *Response Status* **O**

*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* **X**

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"

*Proposed Response* *Response Status* **O**

*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* **X**

The title for Table 154-12 seems incorrect. The ITest 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.

*Proposed Response* *Response Status* **O**

*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* **X**

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.

*Proposed Response* *Response Status* **O**

*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* **X**

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

*Proposed Response* *Response Status* **O**

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

Maniloff, Eric — Ciena

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

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

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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.

*Proposed Response* *Response Status* **O**

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

Nicholl, Gary — Cisco systems

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

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.

*Proposed Response* *Response Status* **O**

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

Issenhuth, Tom Huawei

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

The PICs tables starting in 154.11.3 are incomplete.

*SuggestedRemedy*

Complete the required PICS tables with the information from issenhuth_3ct_04_0320

*Proposed Response* *Response Status* **O**