

Cl 00 SC 0 P L # 1709
Anslow, Pete Ciena

Comment Type E Comment Status D

802.3 maintains a list of preferred spellings to be used in the 802.3 standard at:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html
These include:
"intersymbol (not inter-symbol)" page 22 line 26
"low-frequency" not "low frequency" page 72 line 13
"signal-to-noise ratio" not "signal to noise ratio" page 256 line 35
"sublayer" not "sub-layer" page 90 line 52
"Gb/s" not "Gbps" page 68 line 3

SuggestedRemedy

Correct the spellings as noted in the comment.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 00 SC 0 P L # 1711
Anslow, Pete Ciena

Comment Type E Comment Status D

Minus signs should use an en dash (Ctrl-q Shft-p) rather than a short hyphen.
Places in the draft that need correcting are at least:
Table 100-1 through Table 100-5
Table 101-7, Table 101-10, Table 101-17
Table 100A-1, Table 100A-2

SuggestedRemedy

Use an en dash (Ctrl-q Shft-p) for all minus signs.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 00 SC 0 P L # 1708
Anslow, Pete Ciena

Comment Type E Comment Status D

Many of the subclause titles, figure titles, and table titles in Clause 100, Clause 101,
Clause 102, and Annex 100A have words with initial capital letters that are not the first
word or proper nouns.

SuggestedRemedy

Correct the case of these titles

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 00 SC 0 P 91 L 1 # 2077
Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

1-GBASE-XR??? What's that?

SuggestedRemedy

Change all instances of 10GBASE-XR to 10GPASS-XR. Use of 10GPASS-XR-U and
10GPASS-XR-D is encouraged.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 01 SC 1.4 P 22 L 10 # 1715
Anslow, Pete Ciena

Comment Type E Comment Status D

IEEE Std 802.3bk-2013 deleted definition 1.4.26. This has had the effect of re-numbering
all definitions with numbers above this. Consequently, all of the EPoC definitions are being
inserted in the wrong position.

SuggestedRemedy

Change the editing instructions and inserted definition numbering to take account of the
change made by IEEE Std 802.3bk-2013.

For the first editing instruction, change:

"Insert the following definitions after 1.4.136:" to:

"Insert the following definitions after 1.4.135 (Clocked Violation LO (CVL) renumbered from
1.4.136 due to the deletion of 1.4.27 by IEEE Std 802.3bk-2013) as follows:"

Re-number 1.4.136a, 1.4.136b, and 1.4.136c to 1.4.135a, 1.4.135b, and 1.4.135c.

Make equivalent changes for the rest of the definitions.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 01 SC 1.5 P 22 L 50 # 1716
Anslow, Pete Ciena

Comment Type E Comment Status D

The expansion of definitions in 802.3 only uses capital letters at the beginning of each word
when the word is a proper noun

SuggestedRemedy

Remove the capital letters in line with the abbreviation style in the base standard.

Proposed Response Response Status W
PROPOSED ACCEPT.

CI 100 SC 100.2.10 P 68 L 34 # 2088
 Remein, Duane Huawei Technologies,

Comment Type E Comment Status D
 The following terms remain undefined.
 Pg 34 line 34 "standard channel frequency allocation"
 Pg 69 line 10 "gap channel"

SuggestedRemedy

Proposed Response Response Status W
 PROPOSED REJECT.
 No supplied remedy.

CI 100 SC 100.2.10.1 P 68 L 26 # 2087
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D
 Specifications are not based on assumptions

SuggestedRemedy

Remove "and Assumptions" from this title

At pg 69 line 25
 Strike the statement:
 "These specifications assume that the CLT will be terminated with a 75 Ohm load."
 Pg 71 line 44 add "(Note 9)" to Output Impedance
 Pg 72 line 22 add to bottom of notes "9. All measurements performed while transmitter is terminated with nominal output impedance."

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 100 SC 100.2.10.1 P 68 L 43 # 2085
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D
 It is odd that we have a requirement in a section pertaining to "Definitions and Assumptions"

"An Neq-channel per RF port CLT shall comply with all requirements operating with all Neq channels on the RF port, and with all requirements for an Neq'-channel per RF port device operating with Neq' active channels on the RF port for all values of Neq' less than Neq, where Neq' is the full set of modulated or active channels."

SuggestedRemedy

Move this requirement to the end of section 100.2.10.2.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 100 SC 100.2.10.1 P 69 L 20 # 2086
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D
 It is odd that we have a requirement in a section pertaining to "Definitions and Assumptions"

"For an Neq-channel per RF port CLT, the applicable maximum power per channel and spurious emissions requirements are defined using a value of $N^* = \text{minimum}(4\text{Neq}', \text{ceiling}[\text{Neq}/4])$ for $\text{Neq}' < \text{Neq}/4$, and $N^* = \text{Neq}'$ otherwise."

SuggestedRemedy

Move this requirement to the end of section 100.2.10.3.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 100 SC 100.2.10.1.1 P 69 L 39 # 2089
Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

Don't I wish "CLT calculates power in 600 MHz containing the PHY Link".
(just a bit over what we have)
And again:
"For the spurious emissions requirements, power calculated for the 600 MHz containing the PHY Link is the commanded average power of an equivalent 6 MHz channel for that OFDM channel."

SuggestedRemedy

Change 600 MHz" to "400 kHz" in each statement

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 100 SC 100.2.10.2 P 70 L 5 # 1710
Anslow, Pete Ciena

Comment Type E Comment Status D

The 2014 IEEE-SA Standards Style Manual 12.2 e) includes:
"Ranges should repeat the unit (e.g., 115 V to 125 V). Dashes should never be used because they can be misconstrued as subtraction signs."

Table 100-1 has multiple instances of a dash used for a range.

SuggestedRemedy

Change all instances of a dash used as a range to "to"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 100 SC 100.2.13.2 P 79 L 29 # 1712
Anslow, Pete Ciena

Comment Type T Comment Status D

In "... less than or equal to 10-6 ..." the "-6" should be a superscript

SuggestedRemedy

Make the "-6" a superscript

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 100 SC 100.2.6 P 67 L 37 # 2090
Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

We seem to have the same thing specified in a number of places.
Modulation orders are specified in CI 45 (Table 45-191a & Table 45-191b),
Pg 67 line 37, Table 100-1 (pg 70 line 21), and Table 101-12 (pg 127 line 1).
(this is assuming I found all instances by searching for 256-QAM).

SuggestedRemedy

Pick one location and reference that in all secondary locations.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. What has been preferred in previous stds?

CI 100 SC 100.2.6.1 P 68 L 3 # 2082
Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

"Annex x" is now known

SuggestedRemedy

Link to Annex 100A.

Add a space between "a" and "192 in "a192 MHZ OFDM Channel" (same line)

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 100 SC 100.2.7 P 68 L 11 # 2084
Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

Several motions have been passed on frequency plan (copied below).
Geneva (0713) Motion #6
"For an FDD system, the EPoC standard shall support operation over the following frequency ranges: Downstream: 54 MHz to at least 1212 MHz Upstream: 10 MHz to at least 234 MHz Actual frequencies in use on the coax will depend on the diplexer, region, etc. Downstream operation above 1212 MHz to 2610 MHz is for further study."
York Motion #5
"The FDD Upstream frequency band shall be from 5 MHz to 234 MHz Note: This modifies motion #6 from the July 2013 Plenary."
These motions should be incorporated here

Do we want to include marking requirements to clearly state the frequency range of vendor equipment?

SuggestedRemedy

Change the content of 100.2.8 to read:
The CLT shall support a transmitter that includes a range from 54 MHz to 1212 MHz. Equipment may be adapted to all or part of this frequency band to suit regional requirements.

Add para to 100.2.9 to read:
The CNU shall support a transmitter that includes a range from 5 MHz to 234 MHz. Equipment may be adapted to all or part of this frequency band to suit regional requirements

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. 100.2.8: If there is a "shall" on the CLT transmitter, need to have a corresponding "shall" on the CNU receiver. 100.2.9: And conversly for CNU transmitter and CLT receiver. Suggest adding a suitable phrase to each section for marking: e.g. "equipment conforming to this standard shall clearly mark (downstream|upstream) ranges"

CI 100 SC 100.2.7 P 68 L 15 # 2083
Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

Section currently labeled as
100.2.8 Downstream Frequency Plan &
100.2.9 Upstream Frequency Plan &
100.2.9.1 Carrier Muting
Should be 100.2.7.1 & 100.2.7.2 & 100.2.7.2.1 resp

SuggestedRemedy

Change header levels as indicated.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.2 P 85 L 36 # 2100
Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

This text appears to be an editor's note that is not properly designated as such.

SuggestedRemedy

Preface the text: "This subclause is modeled after 76.2 for 10G-EPON, removing multi-rate MII interface definitions." with
"EDITORS NOTE (to be removed prior to publication): "

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.2.4.2 P 87 L 28 # 2102
Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

There are 9 instances of the phrase "extended EPoC RS". This phrase is incorrect as the EPoC RS is not being extended, rather the 10G-EPON RS is being extended to accommodate EPoC.

SuggestedRemedy

Change all 9 instances of "extended EPoC RS" to simply "EPoC RS".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.2.4.3 P 88 L 52 # 2101
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

It is not clear what is meant by "normal inter-frame pattern". The phrase "normal inter-frame" was used in the original text in 65.1.3.3 but this is really just a reference to Idle (see Table 46-3)

SuggestedRemedy

Replace:
 "normal inter-frame pattern"
 With:
 "Idle"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.2.4.3.2 P 90 L 11 # 2103
 Remein, Duane Huawei Technologies,

Comment Type TR Comment Status D

Table 101-4 clearly indicates that the LLID value of 0x7FFE is reserved for PMA's other than EPoC yet the following paragraph indicate that CLT's and CNU's are to response to LLIDs of this value. Both cannot be correct.

SuggestedRemedy

Several options to fix this are possible; here are two.
 Option 1: Open CI 76 and change to Table 76-4 to include 10GPASS-XR for LLID 0x7FFEE. Remove Table 101-4 and refer to table 76-4.

Option 2: Select a new LLID value reserved for EPoC SCB and registration. Make appropriate changes to the text in 101.2 where 0x7F-FE appears (6 instances).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Given that Option 2 was previously suggested and objections were raised we are left with Option 1; although the Editor dislikes this option.

CI 101 SC 101.3 P 91 L 1 # 2106
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

It is not clear why we need a section 1010.3.2 "10GBASE-XR PCS" as a sub-section to 101.3 Physical Coding Sublayer (PCS) for EPoC

SuggestedRemedy

Remove the section heading and combine the subsequent text as part of 101.3.1 Overview

Proposed Response Response Status W

PROPOSED ACCEPT.
 Corrected pg fm 90 to 91

CI 101 SC 101.3.2 P91 L4 # 2109
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

This sentence is incorrect; the link to Figure 100-1 is non-functional and incorrect (s/b 100-2/3). "Figure 100–1 illustrates the functional block diagram of the downstream and upstream path in the EPoC PCS."

Several variations of this error exist throughout CI 101.

101.3.5 pg 93 In 37: "Figure 100–1 illustrates the transmit and receive directions of CLT PCS and transmit and receive directions of CNU PCS."

101.3.6 pg 109 In 5: "Figure 100–1 illustrates the receive direction of CNU PCS and the receive direction of the CLT PCS."

SuggestedRemedy

Change sentences to read:

101.3.2 pg 91 In 4: "Figure 100–2 and Figure 100-3 illustrate the functional block diagram, including the PCS, of the downstream path in the CLT and CNU respectively. Figure 100–TBD and Figure 100-TBD illustrate the functional block diagram of the upstream path in the CLT and CNU respectively in the EPoC PCS."

101.3.5 pg 93 In 37: "Figure 100-2 illustrates the CLT transmitter functional block diagram, while Figure 100-3 illustrates the CNU transmitter functional block diagram."

101.3.6 pg 109 In 5: "Receive direction functional block diagrams for the CLT and CNU are illustrated in Figure 100-TBD and Figure 100-TBD respectively"

Mark TBD figure numbers appropriately.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.3.2 P91 L4 # 2104
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

This sentence is incorrect as the figure is not a the functional block diagram. Also the link to Figure 100-1 is non-functional and incorrect (s/b 100-2). "Figure 100–1 illustrates the functional block diagram of the downstream and upstream path in the EPoC PCS."

SuggestedRemedy

Change sentence to read:

"Figure 100-2 illustrates the CLT transmitter functional block diagram, including the PCS, while Figure 100-3 illustrates the CNU transmitter functional block diagram."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 2109

CI 101 SC 101.3.3 P91 L7 # 2107
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

The clause makes a somewhat abrupt transition from overview to CRC40 followed by a general discussion of LDPC FEC codes. It strikes me that these sections would be better if they were subsections of the PCS Transmit section below 64B/66B encoding (as shown on the block diagram.

SuggestedRemedy

Move these two sections under 101.3.5 PCS transmit fuction after 101.3.5.2 64B/66B Encode.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.3.5 P93 L41 # 2108
 Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

The two para starting with "The EPoC PCS includes a mandatory FEC ..." and "In the transmit direction, the EPoC PCS includes ..." say almost the same thing.

SuggestedRemedy

Delete the first para starting with "The EPoC PCS includes a mandatory FEC ..."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.3.5.3.2 P 102 L 30 # 2110
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

In the 2nd para of this section we exclusively talk of 66-bit blocks; even accumulating Bq of them. This wording will confuse the reader.

Nearly identical wording exists in 101.3.5.3.6 which should also be reworded

SuggestedRemedy

Change the 2nd sentence from:

"The 64B/66B encoder produces a stream of 66-bit blocks, which are delivered to the FEC Encode and Data Detector input process, as shown in Figure 101-1. The FEC encoder accumulates BQ (see Table 101-5) of these 66-bit blocks to form the payload portion of the FEC codeword, removing the redundant first bit (i.e., sync header bit <0>) in each 66-bit block received from the 64B/66B encoder. The first bit <0> of the sync header in the 66-bit block in the transmit direction is guaranteed to be the complement of the second bit <1> of the sync header – see 49.2.4.3 for more details."

To:

"The 64B/66B encoder produces a stream of 66-bit blocks as shown in Figure 101-6; each 66-bit block is composed of 2 bits of sync header and 64 bits of data. These 66-bit blocks are converted to 65-bit block by removing the redundant first bit (i.e., sync header bit <0>) in each 66-bit block received from the 64B/66B encoder, which are delivered to the FEC Encode and Data Detector input process. The FEC encoder accumulates BQ (see Table 101-5) of these 65-bit blocks to form the payload portion of the FEC codeword.

Note the first bit <0> of the sync header in the 66-bit block in the transmit direction is guaranteed to be the complement of the second bit <1> of the sync header – see 49.2.4.3 for more details."

Use the same wording for 101.3.5.3.6 pg 104 line 47.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.3.5.3.2 P 102 L 40 # 2111
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The statement "Finally, the FEC encoder prepends BP (see Table 101-5) padding bits (with the binary value of "0") to the payload of the FEC codeword as shown in Figure 101-6" does not agree with the figure as the figure shows the padding at the end of the data not prepended as indicated in the text.

Identical wording exists in 101.3.5.3.6 which should also be reworded

SuggestedRemedy

Change the statement to read:

"Finally, the FEC encoder appends BP (see Table 101-5) padding bits (with the binary value of "0") to the payload of the FEC codeword as shown in Figure 101-6"

Use the same wording in 101.3.5.3.6 pg 105 line 3

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.3.5.3.2 P 102 L 42 # 2112
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D :40 & PDLC not 65B encoded

Why do we refer to the CRC40 & parity data as if it were a 65-bit encoded word? This can only serve to confuse the reader.

NOTE: SD 101-7/8 COULD EASILY BE MODIFIED TO WORK STRICTLY ON "loc" (EQ TO BIT COUNT) AS THE LIMITS WILL ALWAYS BE THE SAME FOR GFEC AND DATA DETECTOR SD IN CLT.

SuggestedRemedy

Remove the references to 65-B blocks of data in the last para of this section and in Figure 101-6. Reword the last para of 101.3.5.3.2 to:

"This resulting data is then LDPC-encoded, producing FR (see Table 101-5) bits of parity data. The BP padding bits are dropped at the output of the encoder and are not passed to the scrambler or transmitted."

The columns of CQ and CP in table 101-5 can also be removed.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.3.5.3.2 P 103 L 39 # 2099
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D :40 & PDLC not 65B encoded

Figure 101-6 (also applies to Figure 101-9) it is not clear why we are showing the CRC40 and parity bits as being 65B encoded. These bits are not properly encoded 65B blocks, only arbitrary chunks of data and there is no reason to show they are in 65B blocks and thus erroneously imply they are 64B/66B encoded.

SuggestedRemedy

Remove the 65B block indications around the CRC40 and parity.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.3.5.3.3 P 103 L 39 # 2113
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D :40 & PDLC not 65B encoded

Figure 101-6; The padding in the parity block is labeled with bits 0 - CP indicating there are CP+1 bits. I believe this is incorrect

SuggestedRemedy

Change the drawing to label the bits 0 to CP-1

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 2112 (useless padding removed)

CI 101 SC 101.3.5.3.5 P 104 L 31 # 2114
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

There has been no proposal for a 65-bit Start of Burst delimiter. In fact all proposals have not specified a data length but rather a modulated pattern. We should reword this para so that we will not need to revisit it again in the future after burst marker decisions have been made.

Likewise the following para (starting at line 36) should be corrected

SuggestedRemedy

Change:

"The CNU burst transmission begins with the 65-bit long Start of Burst delimiter (burstStart constant, see TBD), which facilitates the detection of the start of a newly incoming data burst. When received at the CLT, the Start of Burst delimiter allows the FEC codeword alignment for the incoming data stream, even in the presence of bit errors. The Start of Burst delimiter is not part of the first FEC codeword.

The CNU burst ends with the 65-bits long End of Burst delimiter (burstEnd constant, see TBD), which facilitates the detection of the end of the current data burst. When received at the CLT, the End of Burst delimiter allows for the rapid reset of the CLT FEC synchronizer, so that it can search for the next burst. The End of Burst delimiter is not part of the last FEC codeword."

To:

"The CNU burst transmission begins with a starting burst marker delimiter (see TBD), which facilitates the detection of the start of an incoming data burst. When received at the CLT, the burst marker enables FEC codeword alignment to the incoming data stream, even in the presence of bit errors. The burst marker is not part of the first FEC codeword. The CNU burst ends with the ending burst marker (see TBD), which facilitates the detection of the end of the current data burst. When received at the CLT, the ending burst marker allows for the rapid reset of the CLT FEC synchronizer, so that it can search for the next burst. The ending burst marker is not part of the last FEC codeword."

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.3.6.1 P 109 L 15 # 2115
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The statement "as selected using register TBD" is incorrect as we don't select a single FEC encoding scheme.

SuggestedRemedy

Strike the phrase.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.3.6.1.2 P 109 L 49 # 2116
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The following statement seems to be begging the question: "The behavior of the FEC decoder in the presence of CRC40 code failure depends on status of the user-configurable option to indicate an uncorrectable FEC codeword."
 How can the FEC decoder behavior be impacted by a CRC failure if the CRC is unknown until after the FEC decoder has completed its decode process?

SuggestedRemedy

Strike the sentence here, the topic is covered in a later para.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 101 SC 101.3.6.1.2 P 110 L 6 # 2076
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

Comment # 1671 implemented incorrectly between D0.5 and D0.6.

Also we cannot replace every 8th BQ blocks but rather every 8th 65-bit block. Further more the BER monitor is not permanently disabled but disabled for the errored blocks.

SuggestedRemedy

Change from:

"The FEC decoder in the CNU shall provide a user-configurable option to indicate an uncorrectable FEC codeword (due to an excess of symbols containing errors) to higher layers. If this user-configurable option is enabled and the calculated value of CRC40 does not match the value of CRC40 retrieved from the received FEC codeword, the FEC decoder replaces bit <0> and <1> in the sync headers in all BQ blocks with the binary value of "11". If this user-configurable option is enabled and the calculated value of CRC40 does not match the value of CRC40 retrieved from the received FEC codeword the FEC decoder indicates an error to the PCS by replacing bit <0> and <1> in the sync header with the binary value of "11" in the first Bq block and every 8th Bq block, e.g. 1st, 9th, 17th, 25th, etc. as well as the last Bq block from the errored FEC codeword. The BER monitor state machine as defined in Clause 49 is then disabled."

To:

"The FEC decoder in the CNU shall provide a user-configurable option to indicate an uncorrectable FEC codeword (due to an excess of symbols containing errors) to higher layers. If this user-configurable option is enabled and the calculated value of CRC40 does not match the value of CRC40 retrieved from the received FEC codeword the FEC decoder indicates an error to the PCS by replacing bit <0> and <1> in the sync header with the binary value of "11" in the first 65-bit block and every 8th 65-bit block, e.g. 1st, 9th, 17th, 25th, etc. as well as the last 65-bit block from the errored FEC codeword. The BER monitor state machine as defined in Clause 49 is then disabled for these 65-bit blocks of data. If this user-configurable option is disabled, the FEC decoder does not make any further changes to the sync headers in all BQ blocks."

Proposed Response Response Status W

PROPOSED ACCEPT.
 Corrected Clause from 00 to 101

CI 101 SC 101.4.2.4.4 P 125 L 13 # 2121
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

I question the use of the term "shall" in this context. This loosely defined algorithm will hardly result in identical pilot definitions for two independent implementations (especially given conditions like "known poor subcarrier locations"). I have no objection to including the material as informative text but suggesting it is normative is a bit hard to swallow. Exact detail of continuous pilot placement can be left to product differentiation.

SuggestedRemedy

Change from:
 "The CLT shall follow Step 1 through Step 6 and Step 8 as specified below for defining the frequencies for the location of these continuous pilots"
 To:
 "The CLT should follow Step 1 through 8 as given below for defining the frequencies for the location of these continuous pilots"

Remove "Informational" after step 7
 Change Step 8 to read:
 "The CLT transmits this continuous pilot pattern to the CNU's in the system and communicates the placement using the PHY Link

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.4.4 P 125 L 6 # 2120
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

Incorrect link in the following "The value of M in equation 101-7 is kept as a parameter that can be adjusted by the CLT"

SuggestedRemedy

Should be Eq 101-3

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.5.1 P 126 L 43 # 2122
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

The following statement is not quite correct:
 "Modulation Type is specified in Table 100-1" as this table list all possible modulation types.

SuggestedRemedy

Change to read:
 "Permissible modulation Types are listed in Table 100-1"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.5.2 P 127 L 27 # 2123
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

Rather than redefine what a continuous pilot is here we should just point to the location at which it is formally defined.
 Same for the next note about PHY Link.

SuggestedRemedy

Strike: "Note: continuous pilots are pilots that occur at the same frequency location in every OFDM symbol." and "Note: The PHY Link resides in a contiguous set of subcarriers in the OFDM channel. The CLT adds the PHY Link to the OFDM channel after time and frequency interleaving; the CNU extracts the PHY Link subcarriers before frequency and time de-interleaving. These subcarriers occupy the same spectral locations in every symbol."
 At line 26 add ref so the line reads:
 "The notation S(C) is used here to define the set of continuous pilots (see 101.4.2.4.2)"
 At line 29 add ref so the line reads:
 "The notation S(P) is used here to define the set of PHY Link subcarriers (see 102.2.1.1)"

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 101 SC 101.4.2.5.2 P 127 L 47 # 2124
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The following statement is misplaced and should be located in a section describing pilots or perhaps amplitude adjustments but not in the section describing symbol mapping. A real good place is 101.4.2.7.1 Pilot Boosting (where it is well covered and should it change there we won't have to try to remember that we restated the requirement here under symbol mapping).

SuggestedRemedy

Strike the sentence: "Pilots are transmitted boosted by a factor of 2 in amplitude (approximately 6 dB)."

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 101 SC 101.4.2.5.2 P 128 L 24 # 2125
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

$N_s + N_p$ is not constant; $N_p + N_d$ is.

SuggestedRemedy

Change NP to ND (subscripted & formatted correctly)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Change to NS + ND

Cl 101 SC 101.4.2.5.2 P 25128 L 25 # 2127
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The relationship $NI = NS + ND$ is restated several time in this clause. Restatement is always a bad idea and should be avoided in a standard; if it is changes in one place you might not remember to change it in all other locations. I suggest we clearly state the relationship once (here in the intro) and reference it elsewhere.

SuggestedRemedy

Add to line 15:
 "NI: The number of scattered pilots and data subcarriers in the OFDM symbol."

At line 20 change:
 "The following equation holds for all symbols:"
 To:
 "The following equations hold for all symbols:"

Add Equation number to $N = N_C + N_S + \dots$

Add new equation with ref:
 " $NI = NS + ND$ "

Change:
 "NS + NP is a constant for a given OFDM configuration. Interleaving and de-interleaving are applied to the set of data subcarriers and scattered pilots of size $NI = .NS + ND$."
 To:
 NI, as defined in Equation {ref} is a constant for a given OFDM configuration, however ND and NS are not the same for every OFDM symbol. Interleaving and de-interleaving are applied to the set of data subcarriers and scattered pilots of size NI. The value of NI is a function of the channel bandwidth, number of excluded subcarriers, number of PHY Link subcarriers and the number of continuous pilots."

On pg 128 line 9 change:
 "The total number of subcarriers that pass through the interleaver and de-interleaver is $NI = NS + ND$ and this number does not change from symbol to symbol. The frequency interleaver introduces a one-to-one permutation mapping P on the NI subcarriers."
 To:
 "The frequency interleaver introduces a one-to-one permutation mapping P on the NI (see Equation 101-{ref}) subcarriers."

At pg 130 line strike the following:
 "These NI subcarriers are made up of ND data subcarriers and NS scattered pilots.
 $NI = ND + NS$
 ND and NS are not the same for every OFDM symbol, the value of NI is a constant for all OFDM symbols in a given system configuration. The value of NI is a function of the channel bandwidth, number of excluded subcarriers, number of PHY Link subcarriers and

the number of continuous pilots."
Combine all sentences in this section into a single para.

Pg 134 line 35 strike the following:
"NI represents the number of data subcarriers and scattered pilots, ND represents the number of data subcarriers in a symbol, NS represents the number of scattered pilots in a symbol:
NI = ND + NS" (this part of the comment suggestion is included in remain_3bn_10_0714.pdf). Change "{ref}" above to appropriate cross ref.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
Changed page from 25128 to 128

CI 101 **SC 101.4.2.5.3** **P 128** **L 40** # 2126
Remein, Duane Huawei Technologies,

Comment Type **ER** *Comment Status* **D**
Acts of will power don't belong in a standard.
(you shouldn't use "will").

SuggestedRemedy
Change:
"Lane 0 will always be present and contain active data subcarriers."
To:
"Lane 0 is always present and contains active data subcarriers."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

CI 101 **SC 101.4.2.6.2** **P 131** **L 20** # 2129
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **D**
An "M of 9, 12 and 16" is incorrect, should be 1-32

SuggestedRemedy
change sentence to read:
"The CLT shall support values of M of from 1 to 32 (see 45.2.1.108)"
This change is included in remain_3bn_10_0714.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

CI 101 **SC 101.4.2.6.3** **P 132** **L 13** # 2131
Remein, Duane Huawei Technologies,

Comment Type **ER** *Comment Status* **D**
The phrase "there is" implies an implementation. Suggest rewording.

SuggestedRemedy
Change from:
"There is a 2-D store comprising 127 rows and K columns."
To:
"Subcarriers to be interleaved can be considered as a 2-D store comprising 127 rows and K columns."

This change is included in remain_3bn_10_0714.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

CI 101 **SC 101.4.2.6.4** **P 134** **L 27** # 2134
Remein, Duane Huawei Technologies,

Comment Type **T** *Comment Status* **D**
Misplaced requirement regarding pilots in section on interleaving:
"The CLT shall synchronize the scattered pilot pattern to the PHY Link preamble, as described in Figure 102.2."
The requirement is included in section 101.4.2.4.1

SuggestedRemedy
Change the para to read:
"The synchronization of the scattered pilot pattern to the PHY Link preamble, as described in Figure 101-13 uniquely defines the 128-symbol segment that is used as the reference pattern."

This change is included in remain_3bn_10_0714.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

CI 101 SC 101.4.2.6.4 P 134 L 29 # 2135
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

This statement below is a reiteration of a statement in section 101.4.2.1 (pg 123 line 2). Duplicate statements in a standard are not a good practice.

"Scattered pilots are not in the same subcarrier location in every symbol; hence some scattered pilots can coincide with continuous pilots in some OFDM symbols. The size of the overlap between the set of scattered pilots and the set of continuous pilots will change from symbol to symbol. As a result, the number of data subcarriers in a symbol will not be the same for all OFDM symbols. When a scattered pilot coincides with a continuous pilot, then that pilot is referred to as a continuous pilot."

SuggestedRemedy

Strike the statement

This change is included in remein_3bn_10_0714.pdf

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.6.4 P 134 L 4 # 2133
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

This requirement seems out of place as this section discuss Interleaving Impact on Continuous Pilots, Scattered Pilots, PHY Link and Excluded Spectral Region. It is also somewhat vague (does it apply to time interleaving, frequency interleaving or both?). Reviewing all requirements in section 101.4.2.6 (interleaving) we find 7 shall statements: Pg 130 line 35 describes when time interleaving is performed Pg 131 line 20 describes possible time interleaver symbol count Pg 132 line 2 describes when freq interleaving is performed Pg 132 line 3 describes what is not interleaved Pg 134 line 4 requires scattered pilots be interleaved Pg 134 line 8 requires a reference pattern for inserting scattered pilot placeholders prior to interleaving be retained in the CLT Pg 134 line 26 requires synchronization of pilots be synchd to the PHY Link Preamble (this misplaced requirement will be dealt with in a separate comment)

SuggestedRemedy

Restate Requirements as in remein_3bn_10_0714.pdf

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.6.4 P 134 L 6 # 2132
 Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

Incorrect ref type (Figure should be section)

SuggestedRemedy

Change to Section ref. to 101.4.2.6.2 and 101.4.2.6.3 This change is included in remein_3bn_10_0714.pdf

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.7 P 135 L 24 # 2137
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

I believe this is a normative statement and not an example: "For example, let the output of the linear feedback shift register be wk. The BPSK modulation used for the pilot would be:"

SuggestedRemedy

Change to read: "Let the output of the linear feedback shift register be wk then the BPSK modulation used for the pilot is:"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.7 P 135 L 3 # 2136
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

This requirement could be more precisely worded

SuggestedRemedy

Change from: "Continuous and scattered pilots shall be BPSK modulated using a pseudo-random sequence. This pseudorandom sequence is generated using a 13-bit linear feedback shift register, shown in Figure 101-18 with polynomial (x¹³+x¹²+x¹¹+x⁸+1)." To: "Continuous and scattered pilots shall be BPSK modulated using the pseudo-random sequence resulting from the 13-bit linear feedback shift register, shown in Figure 101-18 with polynomial (x¹³+x¹²+x¹¹+x⁸+1) and described below." (observe superscripting of exponents)

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 101 **SC 101.4.2.7** **P 135** **L 4** # **2128**
 Remein, Duane Huawei Technologies,
Comment Type **E** **Comment Status** **D**
 The LFSR is illustrated not shown and the polynomial should use super scripting.
SuggestedRemedy
 as above.
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 101 **SC 101.4.2.8** **P 136** **L 16** # **2139**
 Remein, Duane Huawei Technologies,
Comment Type **T** **Comment Status** **D**
 To quote the editor; should "nulling" in the 1st sentence above be changed to "excluding"?

 I believe it should
SuggestedRemedy
 Change "nulling" to "excluding"

 Also strike the statement "although this would be the most logical approach when transmitting a channel with active bandwidth less than 190 MHz"
 If this is the case then we don't need to state it and if not stating it will make no difference anyway.
 Strike the Editors note at line 19
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 101 **SC 101.4.2.8** **P 136** **L 22** # **2140**
 Remein, Duane Huawei Technologies,
Comment Type **T** **Comment Status** **D**
 The following statement is only partially true.
 "Once the CNU detects the downstream PHY Link, the CNU knows the location of k = 0."
 Before knowing where k0 is the CNU must also receive the DS PHY link control register.
SuggestedRemedy
 Change to read:
 "Once the CNU detects the downstream PHY Link and receives the downstream PHY Link control register (see 45.2.1.112), the CNU knows the location of k = 0."
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 101 **SC 101.4.2.8** **P 136** **L 25** # **2141**
 Remein, Duane Huawei Technologies,
Comment Type **T** **Comment Status** **D**
 The following statement sounds like an implementation choice:
 "There is a single IDFT function per lane."

 Could one build a multi lane EPoC device using a single IDFT function?
SuggestedRemedy
 Strike the statement here.
 Change pg 135 line 39 from:
 "The CLT OFDM and CNU OFDMA signals are assembled in the frequency domain using 4096 subcarriers."
 To:
 "The CLT OFDM and CNU OFDMA signals are assembled in the frequency domain using 4096 subcarriers per OFDM/OFDMA lane."
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 101 **SC 101.4.2.8** **P 136** **L 3** # **2138**
 Remein, Duane Huawei Technologies,
Comment Type **E** **Comment Status** **D**
 stray text "Table 101-X"
SuggestedRemedy
 strike
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 101 **SC 101.4.2.9** **P 137** **L 19** # **2143**
 Remein, Duane Huawei Technologies,
Comment Type **T** **Comment Status** **D**
 Missed a factor in this equation derivation (2nd line = ?/ ")
SuggestedRemedy
 Strike 2nd equation starting with "w(i + (N + NCP + NRP) / 2) = "

 Reformat 1st Eq (line 17) to match structure of Eq on line 21 (as per laubach_3bn_014_0514.pdf)
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

CI 101 SC 101.4.2.9 P 138 L 7 # 2142
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The phrase "Permissible values" here sounds like this should be normative.

A similar wording exists at 101.4.3.13 pg 145 line 6

SuggestedRemedy

Pg 138 line 5 Change from:

"Permissible values for NCP in the downstream direction are given in Table 101–14 while permissible values for NRP in the downstream direction are given in Table 101–15."

To:

"The CLT shall use one of the permissible values for NCP and for NRP in the downstream direction given in Table 101–14 and Table 101–15 respectively"

Pg 145 line 5 change from:

"Permissible values for NCP in the downstream direction are given in Table 101–19 while permissible values for NRP in the downstream direction are given in Table 101–20."

To:

"The CNU shall use one of the permissible values for NCP and NRP in the upstream direction given in Table 101–19 and Table 101–20 respectively."

Add NCP or NRP as appropriate to each table header.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.3.12.1 P 143 L 41 # 2095
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The phrase "(summation is over all k)" is ambiguous in this context. Does k cover all 4096 subcarrier? Active (non-excluded) subcarriers? or something else?

SuggestedRemedy

Change the phrase to read:

"(summation is over all k for 0<= k <= 4095)"

Or should it be something else?

ATTENTION OFDM EXPERTS!

Proposed Response Response Status W
 PROPOSED ACCEPT.

ATTENTION OFDM EXPERTS!

CI 101 SC 101.4.3.12.1 P 143 L 43 # 2096
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

Item 2) states that PreEq changes need to take affect within 10 ms. Do they need to be synchronized to anything (like the beginning of a symbol) or can this change happen in the middle of a transmission?

SuggestedRemedy

Add the following note:

Note: because the time at which new pre-equalization coefficient setting take affect is not synchronize it may occur in the middle of a CNU transmission.

Proposed Response Response Status W
 PROPOSED ACCEPT.

ATTENTION OFDM EXPERTS!

CI 101 SC 101.4.3.8.1 P 140 L 24 # 2091
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The statement that burst markers "2) indicate the bit loading profile of the burst" is incorrect, we are currently assuming there is one and only one US Profile and therefore we don't need to specify the Profile ID using the burst marker.

SuggestedRemedy

Strike the phrase. Also remove the last sentence in the 2nd para that reads: "There are N unique burst marker sequences, one for each of the N bit loading profiles."

Also on pg 140 line 47 strike the statement that reads:

"The parameter marker_incl can only be set to 0 if there is one and only one profile in use in the EPoC network."

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.3.8.3 P 140 L 51 # 2092
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

This entire paragraph is incorrect (we adopted a fixed size 4x6 burst marker in Beijing motion #4).
 "The length of the burst marker sequence is the number of burst marker elements in the sequence. The length of the burst marker sequence shall be configurable to be equal to 16, 24, 32, 40, 48, 56, or 64. The parameter marker_length shall specify the length (L) of the burst maker sequence. The values 0, 1, 2, 3, 4, 5, and 6 shall correspond to lengths L = 16, 24, 32, 40, 48, 56, and 64, respectively."

SuggestedRemedy

Change to read:
 "The length of the burst marker sequence is the number of burst marker elements in the sequence and is fixed at 24 elements in a 4 subcarrier by 6 symbol configuration.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.3.8.4 P 141 L 8 # 2093
 Remein, Duane Huawei Technologies,

Comment Type TR Comment Status D

This statement says: "The burst marker shall be mapped row wise across time axis and from top to bottom across frequency (subcarrier) axis"
 The use of the phrase "from top to bottom" is ambiguous. Is frequency increasing or decreasing? Likewise Table 101-16 is ambiguous with respect to increasing time and frequency.
 In general we should be consistent in how we illustrate and refer to time and frequency.

SuggestedRemedy

Adopt a convention where frequency increases from bottom to top and time increases from left to right for all figures and tables.

Editors to review all tables & figures and identify those that differ from this convention.

Replace section 101.4.3.8.4 with the contents of remain_3bn_11_0714.pdf (available in FrameMaker).

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.3.8.5 P 141 L 37 # 2094
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

We have revised the burst marker sequence (in Beijing) so this section is incorrect.

SuggestedRemedy

Replace with the text and table in remain_3bn_11_0714.pdf

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.4 P 146 L 1 # 2097
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

It is not clear why the constellation structure and mapping is for LDPC FEC. If we were using a different FEC would we use a different mapping?

SuggestedRemedy

Remove "for LDPC FEC" from the title of this section.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 101 SC 101.4.4 P 146 L 3 # 2098
 Remein, Duane Huawei Technologies,

Comment Type ER Comment Status D

It is not clear what PHY Link, initial ranging and fine ranging, have to do with this topic.

SuggestedRemedy

Remove "PHY Link, initial ranging and fine ranging," from the first sentence.
 Change "output bits stream" to "output bit stream"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.1.1 P 154 L 27 # 2155
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The following statements are incorrect:
 "PHY Instructions that require a response from the CNU (read & write/verify instructions) cannot be addressed to a group of CNU with the exception of a PHY Discovery Instruction (see Clause 102.4). CNU's receiving PHY Instructions that require a response (read and write/verify operations) shall provide that response in the frame that starts following the end of the frame including the instruction (see ref)."
 All unicast instructions require a response.
 Also the response to an instruction should be specified in the DS frame.

SuggestedRemedy

Change to:
 "Read & write/verify instructions cannot be addressed to a group of CNU's. The one exception to this is the PHY Discovery Instruction (see Clause 102.4). CNU's receiving unicast PHY Instructions shall provide that response in the OFDMA frame specified in the downstream message following the end of the frame including the instruction (see ref)."
 Note this will require the addition of a field in the DS frame to specify the ID of starting OFDMA frame. See additional changes in remein_3nb_12_0714.pdf for modifications to text and figures to accomplish this. These changes include:
 addition of Return Frame ID field and the Response Type field in both US & DS frames.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.1.3 P 156 L 41 # 2144
 Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

The following statement is not precisely correct as the PHY Link message engine does not produce a complete frame but only the message block.
 "Once a PHY Link frame has been created the stream of bytes is converted into a stream of bits"

SuggestedRemedy

Change to:
 "Once a PHY Link message block has been created the stream of bytes is converted into a stream of bits"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.1.5 P 160 L 16 # 2145
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

The following statement disagrees with the block diagram in Fig 102-4 & 102-5.
 "The Phy shall scramble the output of the PHY Link time interleaving process using a linear feedback shift register mechanism as shown in Figure 102–10."
 IN the figure the scrambler is shown after FEC encoding not after Interleaving.

SuggestedRemedy

Change to read:
 "The Phy shall scramble the output of the PHY Link FEC encoding process using a linear feedback shift register mechanism as shown in Figure 102–10."

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.1.5 P 160 L 40 # 2146
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

There has been no technical presentation showing there is a need to support a provisionable seed for the PHY Link scrambler.

SuggestedRemedy

Change:
 "The scrambler is initialized to the hexadecimal value (default value of 0x4732BA, see 45.x.x.x)."
 To:
 "The scrambler is initialized to the hexadecimal value of 0x4732BA."
 Remove the parenthetical phrase in Figure 102-10 leaving only the hex value of 0x4732BA.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.1.6 P 160 L 47 # 2147
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

We have concluded that the US PHY Link may use a modulation level other than 16-QAM.

SuggestedRemedy

Change from:

"The Phy maps each scrambled nibble {y0, y1, y2, y3} of normal PHY Link data (i.e., excluding PHY Discovery and Fine Ranging) into a complex number using the 16-QAM constellation mapping shown in 101.4.2.3."

To:

"The Phy maps the scrambled bit stream of normal PHY Link data (i.e., excluding PHY Discovery and Fine Ranging) into a complex number using the assigned modulation order. In the downstream direction the assigned modulation order is always 16-QAM and uses the mapping shown in 101.4.2.3. The upstream PHY Link may use 16-QAM or a higher order modulation (see ref for mapping structure)."

To:

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 102 SC 102.2.1.1 P 161 L 30 # 2148
 Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

References for this para are now known. Plus a repeated phrase "see {ref} for exact placement of pilots" can be removed.

SuggestedRemedy

Change from:

"This PHY Link band also includes eight pilot tone subcarriers placed symmetrically above and below the information sub-carriers as illustrated in Figure 102-11; see {ref} for exact placement of pilots. The downstream PHY Link is located per the "DS PHY Link #n Start" parameter (see 45.2.1.112) that determines the lowest frequency sub-carrier of the PHY Link information channel. Precise placement of the eight pilot tones is described in {ref}. No additional pilot tones are allowed within this 6 MHz band (see ref)."

To:

"This PHY Link band also includes eight pilot tone subcarriers placed symmetrically above and below the information sub-carriers as illustrated in Figure 102-11; see {101.4.2.4.3} for exact placement of pilots. The downstream PHY Link is located per the "DS PHY Link #n Start" parameter (see 45.2.1.112) that determines the lowest frequency sub-carrier of the PHY Link information channel. No additional pilot tones are allowed within this 6 MHz band (see 101.4.2.4)."

FYI:

101.4.2.4.3 Predefined Continuous Pilots around the PHY Link
 101.4.2.4 Pilot Map

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 102 SC 102.2.1.3 P 162 L 30 # 2149
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

There are a number of issues with the para below:
 "Sub-clause 102.4.1.6 shows 240 data bits entering the LDPC encoder and 384 encoded bits exiting the LDPC encoder. This sequence is in effect time-reversed ordered. The time-ordered sequence takes the form shown in Figure 102–12. The PHY shall map the 384 FEC encoded data bits from the DS PHY Link FEC encoder to 96 4-bit nibbles {u_i, i=0, 1, ... , 95} as shown in Figure 102–12."
 1) there is no LDPC encoder with a 240 bit input.
 2) Sub-section 102.4.1.6 is unrelated to time interleaving
 3) The interleaver does not get it's input from the FEC encoder but the Scrambler.

SuggestedRemedy

Change to read:
 "Figure 102–7 shows 288 data bits entering the LDPC encoder and 384 encoded bits exiting it. This sequence is in effect time-reverse ordered. The time-ordered sequence takes the form shown in Figure 102–12. The PHY shall map the 384 FEC encoded data bits, as processed by the scrambler, to 96 4-bit nibbles {u_i, i=0, 1, ... , 95} as shown in Figure 102–12."
 Remove the editors note line 28

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.2.1.3 P 163 L 43 # 2150
 Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

This stray text is now incorporated in CI 101 and should be removed.

SuggestedRemedy

Remove highlighted text from line 43 - 49

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.3.2 P 169 L 30 # 2151
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

It does not appear we will be using an US PHY Link preamble.

SuggestedRemedy

Strike this section.
 Also in next section remove the phrase "a preamble," at line 40

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.3.3.2 P 170 L 15 # 2152
 Remein, Duane Huawei Technologies,

Comment Type E Comment Status D

ambiguous "it"
 "If the PHY Link EFHB contains the unicast CNU_ID for the CNU, it shall respond to PHY Link instructions"

SuggestedRemedy

Change to:
 "If the PHY Link EFHB contains the unicast CNU_ID for the CNU, the addressed CNU shall respond to PHY Link instructions"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 102 SC 102.3.5 P 171 L 20 # 2153
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

Figure 102–16 is ambiguous regarding the length of time between pilots (how often the pilot pattern repeats.

SuggestedRemedy

Add a dimensional arrow indicating that the pattern repeats every OFDMA frame.

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 102 **SC 102.4.1.3** **P 172** **L 25** # 1743
 Anslow, Pete Ciena

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

802.3 maintains a list of preferred spellings to be used in the 802.3 standard at:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html
 This includes "implementor (not implementer)"

SuggestedRemedy

Change "implementer" to "implementor"

Proposed Response **Response Status** **W**

PROPOSED ACCEPT.

Cl 102 **SC 102.4.4** **P 179** **L 7** # 2154
 Remein, Duane Huawei Technologies,

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

The following phrase and reference figure should be relocated to section 102.4.1.1
 Overview of PHY Discovery

"The PHY Discovery message exchange is illustrated in Figure 102-22."

SuggestedRemedy

Move phrase & figure 102-22

Proposed Response **Response Status** **W**

PROPOSED ACCEPT.

Cl 45 **SC 45.2** **P 29** **L 1** # 1718
 Anslow, Pete Ciena

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

The reference to Table 45-1 in note a should be a cross-reference

SuggestedRemedy

Make it a cross-reference

Proposed Response **Response Status** **W**

PROPOSED ACCEPT.

Cl 45 **SC 45.2.1** **P 30** **L 16** # 1723
 Anslow, Pete Ciena

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

All entries in the Register name column should match the names of the registers defined in the corresponding section
 All entries in the Register address column should match the addresses of the registers defined in the corresponding section

SuggestedRemedy

Remove the two instances of "includes OFDM channel center frequency" from Table 45-3 as these are not part of the register names.

The "10GPASS-XR DS OFDM control" register as defined in 45.2.1.108 is just 1.1901, so "through 1.19aa" should be deleted from the register address column.

The next register (defined in 45.2.1.109) is called "10GPASS-XR US OFDM control" in Table 45-3 but "10GPASS-XR DS OFDM channel center frequency control register 1 through N" in 45.2.1.109. Use the same name in both places. If the latter name is used then Table 45-3 should contain "10GPASS-XR DS OFDM channel center frequency control 1 through N" and the title of 45.2.1.109 should be "10GPASS-XR DS OFDM channel center frequency control 1 through N registers (Register 1.1902 through 1.19aa)"

Make the entry for the Register address in Table 45-3 "1.1902 through 1.19aa".

Likewise go through 45.2.1.110 to 45.2.1.113 and make the entries in Table 45-3 match.

Proposed Response **Response Status** **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove the two instances of "includes OFDM channel center frequency" from Table 45-3 as these are not part of the register names.

The "10GPASS-XR DS OFDM control" register as defined in 45.2.1.108 is just 1.1901, so "through 1.19aa" should be deleted from the register address column.

Change "10GPASS-XR US OFDM control" in Table 45-3 and retitle 45.2.1.109 to "10GPASS-XR DS OFDM channel center frequency control register 1 through N" retain "(Register 1.1902 through 1.19aa)" in 45.2.1.109 title
 Make the entry for the Register address in Table 45-3 "1.1902 through 1.19aa".

Likewise go through 45.2.1.110 to 45.2.1.113 and make the entries in Table 45-3 match.

CI 45 SC 45.2.1 P 30 L 4 # 1719
 Anslow, Pete Ciena

Comment Type E Comment Status D

In the editing instruction "insert a new rows" doesn't make sense.
 The two parts of Table 45-3 are in the wrong order (1.17 should be above 1.1809)
 All entries in the Subclause column of Table 45-3 should be cross-references and "45.2.1.13a" for 1.17 should be "45.2.1.13b"
 The reserved row "1.16 through 1.29" has been changed by 802.3bj to "1.17 through 1.29"

SuggestedRemedy

Change "insert a new rows" to "insert new rows"
 Swap the order of the two parts of Table 45-3
 Make the entries in the Subclause column of Table 45-3 cross-references which will correct "45.2.1.13b"
 Change the "16" in strikeout to "17"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.1.1 P 30 L 46 # 1720
 Anslow, Pete Ciena

Comment Type E Comment Status D

The heading "45.2.1.1 PMA/PMD speed ability (Register 1.4)" should be 45.2.1.4

SuggestedRemedy

Renumber the heading as 45.2.1.4

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.1.107 P 33 L 44 # 1721
 Anslow, Pete Ciena

Comment Type E Comment Status D

The heading for 45.2.1.107 "10GPASS-XR control register 1" doesn't match the register name in Table 45-3 (no "1").
 Since there is only one "10GPASS-XR control" register the "1" seems unnecessary.

If the "1" is to be kept then the register name in Table 45-3 should be changed to "10GPASS-XR control 1" and the three instances noted in the suggested remedy should become "10GPASS-XR control 1 register"

SuggestedRemedy

Delete the "1" in three places (heading of 45.2.1.107, text of 45.2.1.107, and title of Table 45-78a).

Proposed Response Response Status W

PROPOSED ACCEPT.
 Also see comment #2156

CI 45 SC 45.2.1.107 P 34 L 50 # 2158
 Remein, Duane Huawei Technologies,

Comment Type T Comment Status D

FEC Errors control bit needs to be added per 101.3.6.1.2 pg 110 line 5: "The behavior of the FEC decoder in the presence of CRC40 code failure depends on status of the user-configurable option to indicate an uncorrectable FEC codeword."

SuggestedRemedy

Add to Register 1900 bit 3
 CRC40 Errors
 1 = CRC40 Errored frames are passed to the MAC layer as is
 0 = CRC40 Errored frames are passed to the MAC layer using an error indication

(see 101.3.6.1.2 pg 110 line 5 for a description of the effect of the bit)

Proposed Response Response Status W

PROPOSED ACCEPT.
 Change will be either pg 33 line 50 or pg 34 line 4

CI 45 SC 45.2.1.107.1 P 34 L 19 # 1722
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 "102.4" should be a cross-reference in black
 SuggestedRemedy
 Make "102.4" a cross-reference.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 45 SC 45.2.1.114 P 40 L 7 # 2156
 Remein, Duane Huawei Technologies,
 Comment Type ER Comment Status D
 If we are not going to support multiple US OFDMA channels there is no need to specify the OFDMA channel this register applies to.
 SuggestedRemedy
 Remove reference to "#1" throughout this section.
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 Also see comment #1721

CI 45 SC 45.2.1.116 P 41 L 1 # 2157
 Remein, Duane Huawei Technologies,
 Comment Type T Comment Status D
 We may not need this counter at all but if we do we should be clear if this is for the DS PHY Link frame or the US Superframe.
 SuggestedRemedy
 Use this register for DS PHY Link frame. Change wording to indicate DS PHY Link frame. Add a new register just below this register (i.e., 1.19hi to count US Superframes. Add new register to Table 45-3.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 45 SC 45.2.7a P 43 L 1 # 1725
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 The editing instruction says "renumbering subsequent sections as required." but the numbering scheme of the changes has been chosen to avoid the need for re-numbering.
 SuggestedRemedy
 Delete "renumbering subsequent sections as required."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 45 SC 45.2.7a P 43 L 4 # 1724
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 All of the level 3 headings in 45.2 start with a table that defines what registers are defined and what registers are reserved. For 45.2.1 this is Table 45-3, for 45.2.2 it is Table 45-79 etc. This is missing for 45.2.7a
 SuggestedRemedy
 Add a new table in 45.2.7a that lists all of the registers and reserved blocks with format equivalent to those in the previous sections.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 45 SC 45.2.7a.1 P 43 L 6 # 1726
Anslow, Pete Ciena

Comment Type E Comment Status D

The title for 45.2.7a.1 indicates one register (Register 12.0) but the table covers the bit definitions for register 12.0 as well as the register definitions for registers 12.1 through 12.1023. This is not in accord with the rest of Clause 45 and is unnecessarily confusing. Similar issue for 45.2.7a.2

SuggestedRemedy

In the title and text of 45.2.7a.1 and the title of Table 45-191a, change "10GPASS-XR DS profile descriptor control registers" to "10GPASS-XR DS profile descriptor control 1 register" (3 instances).
Remove the bottom row from Table 45-191a.
Change subclause 45.2.7a.1.5 to be a level 4 heading with title: 45.2.7a.2 10GPASS-XR DS profile descriptor control 2 through 1024 registers (Register 12.1 through 12.1023).
In the following text change:
"... the remaining downstream sub-carriers in the ..." to:
"... the remaining downstream sub-carriers (SC4 through SC4095) in the ..."

In the title and text of 45.2.7a.2 and the title of Table 45-191b, change "10GPASS-XR US profile descriptor control registers" to "10GPASS-XR US profile descriptor control 1 register" (3 instances).
Remove the bottom row from Table 45-191b.
Change subclause 45.2.7a.2.5 to be a level 4 heading with title: 45.2.7a.4 10GPASS-XR US profile descriptor control 2 through 1024 registers (Register 12.1025 through 12.2047).
In the following text change:
"... the remaining upstream sub-carriers in the ..." to:
"... the remaining upstream sub-carriers (SC4 through SC4095) in the ..."

Proposed Response Response Status W
PROPOSED ACCEPT.

CI 56 SC 56 P 49 L 5 # 1727
Anslow, Pete Ciena

Comment Type E Comment Status D

The editing instructions in Clause 56 do not use the correct font.

SuggestedRemedy

Change the font to Times New Roman 10pt Italic Bold (as indicated on Page 21 of the draft)

Proposed Response Response Status W
PROPOSED ACCEPT.

CI 56 SC 56.1 P 49 L 20 # 1729
Anslow, Pete Ciena

Comment Type E Comment Status D

Since the second paragraph of 56.1 in the base standard (starting "An important characteristic of EFM is ...") is not being modified by the draft it should not be shown here.

SuggestedRemedy

Remove the paragraph.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. The second paragraph at line 20 begins "In addition, a mechanism ...", this is not as in comment above. The third paragraph begins as stated above, but at line 26/27. Please clarify the intended paragraph.

CI 56 SC 56.1 P 49 L 23 # 1728
Anslow, Pete Ciena

Comment Type E Comment Status D

The text shown says "... Figure 56-4 for 10/10G-EPON ...". This is from the base standard and should read "... Figure 56-3 for 10/10G-EPON ...".
The reason for this re-numbering is probably that the new Figure 56-4a used Figure 56-3 as a starting point and the cross-reference marker was not removed when creating Figure 56-4a. This will cause trouble when the new figure is pasted in to the base standard. Also, the fact that the link associated with the renumbered reference doesn't say "Figure 56-4a" means that the autonumber format for the new figure needs modification.

SuggestedRemedy

Delete the cross-reference marker in the title of Figure 56-4a (T shaped character visible when View, Text symbols is checked).
Change the Autonumber format for the title of Figure 56-4a to "F:Figure <n>-<n=4><a=1>-"
Re-create the cross-references to Figure 56-4a on page 49 line 12 and page 51 line 10 (remove the "a" character following them).
Replace the "Figure 56-4" on page 49 line 23 and page 51 line 2 (first instance) with the text "Figure 56-3" in Forest green font (as indicated for "Cross references that refer to clauses, tables, equations, or figures not covered by this amendment" on page 21 of the draft).

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 56 **SC 56.1.2** **P 49** **L 38** # 1730
 Anslow, Pete Ciena

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

The editing instruction starts: "Change 56.1.2 by adding a new paragraph ...". For this to be appropriate, the whole of the existing 56.1.2 would need to appear in the draft.

SuggestedRemedy
 Change the editing instruction to: "Insert a new paragraph at the end of 56.1.2 as follows:"
 Show the new paragraph in normal font as appropriate for an Insert editing instruction.

Proposed Response *Response Status* **W**
 PROPOSED ACCEPT.

Cl 56 **SC 56.1.3** **P 51** **L 38** # 1731
 Anslow, Pete Ciena

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

The editing instruction for this paragraph is "Insert" so it should not be shown in underline font. (Underline is only used for change editing instructions, see page 21 of the draft)

SuggestedRemedy
 Show the inserted paragraph in normal font.

Proposed Response *Response Status* **W**
 PROPOSED ACCEPT.

Cl 56 **SC 56.1.3** **P 51** **L 42** # 1732
 Anslow, Pete Ciena

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

Table 56-1 has been modified by IEEE Std 802.3bk-2013.

SuggestedRemedy
 Change the editing instruction to:
 "Change Table 56-1 (as modified by IEEE Std 802.3bk-2013) as follows:"
 Make the changes to the table shown in 802.3bk (without underlines)

Proposed Response *Response Status* **W**
 PROPOSED ACCEPT.

Cl 56 **SC 56.1.3** **P 53** **L 6** # 1733
 Anslow, Pete Ciena

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

Table 56-3 has been modified by IEEE Std 802.3bk-2013.

SuggestedRemedy
 Change the editing instruction to:
 "Change Table 56-3 (as modified by IEEE Std 802.3bk-2013) as follows:"
 Make the changes to the table shown in 802.3bk (without underlines)

Proposed Response *Response Status* **W**
 PROPOSED ACCEPT.

Cl 67 **SC 67** **P 57** **L 5** # 1734
 Anslow, Pete Ciena

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

The editing instructions in Clause 67 do not use the correct font.

SuggestedRemedy
 Change the font to Times New Roman 10pt Italic Bold (as indicated on Page 21 of the draft)

Proposed Response *Response Status* **W**
 PROPOSED ACCEPT.

Cl 67 **SC 67.2.1** **P 57** **L 43** # 1735
 Anslow, Pete Ciena

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

The change to the title of 67.2.1 has no corresponding editing instruction.
 Same issue for the title of 67.2.3

SuggestedRemedy
 Move the editing instruction on line 38 above the title and change to:
 "Change the title and text of 67.2.1 as shown below:"
 make the equivalent change to 67.2.3

Proposed Response *Response Status* **W**
 PROPOSED ACCEPT.

CI 67 SC 67.2.1a P 57 L 51 # 1736
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 The editing instruction "Insert a new subclause 67.2.1a after 67.2.1:" has no corresponding text
 SuggestedRemedy
 Either remove the editing instruction or add the appropriate heading and at least an editor's note describing the missing content.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE. Task Force needs to decide.

CI 67 SC 67.2.2 P 58 L 5 # 1737
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 Since the editing instruction "Change text in 67.2.2 as shown below:" does not concern the figure, there is no need to include it.
 Same issue for 67.2.3 and Figure 67-2
 SuggestedRemedy
 Remove Figures 67-1 and 67-2
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 67 SC 67.2.3a P 58 L 50 # 1738
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 The editing instruction is "Insert" so the new heading should not be shown in underline font. (Underline is only used for change editing instructions, see page 21 of the draft)
 SuggestedRemedy
 Show the heading without underline
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 67 SC 67.3 P 59 L 3 # 1739
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 Since the changes to Figure 67-3 are likely to involve more than simple text changes, the appropriate editing instruction is "Replace" rather than "Change"
 SuggestedRemedy
 use a "Replace" editing instruction
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 67 SC 67.6.1 P 59 L 37 # 1740
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 There are no editing instructions for the changes to 67.6.1 or 67.6.3.
 The editor's note mentions red text which is not there.
 SuggestedRemedy
 Add "Change" editing instructions fro 67.6.1 and 67.6.3
 Remove the second sentence of the existing editor's note.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 99 SC P 1 L 36 # 1713
 Anslow, Pete Ciena
 Comment Type E Comment Status D
 The frontmatter does not include the latest IEEE copyright statement
 SuggestedRemedy
 Include the latest copyright statement from the 2014 IEEE-SA Standards Style Manual.
 This is also available in the latest version of the 802.3 FrameMaker template.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl **99** SC P **4** L **23** # **1714**
Anslow, Pete Ciena

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

As IEEE Std 802.3bk-2013 is now published, the abstract can be updated to match the published version.

SuggestedRemedy

This should start:
IEEE Std 802.3bkTM-2013
Amendment 1—This amendment ...

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **Annex** SC **A** P **25** L **10** # **1717**
Anslow, Pete Ciena

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

All of the entries in the bibliography should be referred to somewhere in the standard. The two new bibliography entries do not appear to be referred to in the draft amendment.

SuggestedRemedy

Either add references to these two bibliography entries in the draft or remove them.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.
Was "E" changed to "T" to bring before TF
Remove the new entries and avoid changing Annex A