Cl **114** *SC* **114.6.3.3** *P* **96** *L* **34** # 1

McDermott, Thomas — Fujitsu

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

The text describes the "test procedure" essentially as

For each receive parameter in all receive parameters:
For each transmit parameter in all transmit parameters:
For each fiber parameter in all fiber parameters:
Make sure it works.

This requires on the order of N^3 tests, it could be described as "engineering qualification". The expectation perhaps of both manufacturers and users of the specification is that some subset of corner cases is identified that highlight the significant worst-case conditions. Receive overload, receive minimum signal, fiber BW min, BW max, etc. These few cases are then described as the "test procedure".

Particularly, if in the field the link does not work, how is the user supposed to identify the problem? They and the manufacturer need a few tests to isolate the issue. Neither should be expected to run N^3 tests.

SuggestedRemedy

Create the small suite of corner cases that assist resolution of non-performant situations should they arise. Re-title the existing document "test procedure".

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Add proposal text 8023-114_rcvr_test_proc_240516.pdf after 114.6.3.3.
Update PICS items according to the new shall statements.

Also correct the units of RR in Table 114-10. It should be dB.

Cl **114** *SC* **114.1.3** *P* **44** *L* **10** # 2

Chalupsky, David — Intel

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

Figure 114-1 is just a generic diagram. Make it P802.3bv specific

SuggestedRemedy

add "1000BASE'H" to the PCS block, "1000BASE-RHA, RHB or RHC" near the medium block

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a bracket to the left of PCS and PMA blocks, with text "1000BASE-H", to indicate that 1000BASE-H comprises both the PCS and the PMA sublayers.

Add "1000BASE-RHx" near the medium block (to be consistent with response to comment #6).

Cl **114** *SC* **114.13** *P* **17** *L* **39** # 3

John, D'Ambrosia — Futurewei, Subsidiary

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

Delay constraints is important and would be easy to miss after environmental specfiications, 114.12

SuggestedRemedy

Moove 114.13 to before 114.12

Response *Response Status* **C**

REJECT.

There is no consistency in 802.3-2015 about the order of these two sections (Delay constraints and Environmental specs).

Moving 114.13 to before 114.12 do not add clarity

Cl **114** *SC* **114** *P* **43** *L* **1** # 4

John, D'Ambrosia Futurewei, Subsidiary

Comment Type **ER** *Comment Status* **R**

Why do PHYs use "R" in the prefix? That is usually associated with 64b/66b encoding.

SuggestedRemedy

remove "R" from PHY names.

Response *Response Status* **U**

REJECT.

Port type naming was repeatedly discussed in SG and TF meetings and draft reviews. The R in our port type names is in the position typically used for optical wavelengths, where previous usage is in the PCS position. The specification of wavelength is felt appropriate for future development of longer reach POF port types (R for red light source and G for green were extensively discussed). Support for this was consistent (until this comment) after moving to the current port names. TF thinks that the requested change would reduce consensus.

Cl **114** *SC* **114.2.4.1.1** *P* **52** *L* **44** # 5

John, D'Ambrosia Futurewei, Subsidiary

Comment Type **ER** *Comment Status* **R**

The term "GMII chunk" is not added to the definitions

SuggestedRemedy

add the definition for the term "GMII chunk" to 1.4"

Response *Response Status* **U**

REJECT.

The term is local and is not used outside of 114.2.4.1. Therefore, it is not felt necessary to include in the definitions of 1.4. Further, the TF also believes inclusion in definitions would reduce consensus.

Cl **114** *SC* **114.1** *P* **43** *L* **8** # 6

John, D'Ambrosia Futurewei, Subsidiary

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

The draft refers to and names three PMD sublayers: 1000BASE-RHA, 1000BASE-RHB, and 1000BASE-RHC. It talks about a family of 1000BASE-H family of PHYs, but they are never named. The term 1000BASE-RHx PHY is then referred to.

This lack of clarify makes it difficult to understand if there is a single PHY or family and what their names are. This is further confused by Fig 114-1, which only shows a single PHY stack.

SuggestedRemedy

Add table defining PHYs (name and description) see Table 80-1 as example.

add table defining the PHY and then the clause correlation - see table 80-4 as example.

In Fig 114-1
add PHY family name at bottom of stack - 1000BASE-RHx.
Rename "PCS" to "1000BASE-H PCS"

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change Pg 43, 8 through 12, to:
"1000BASE-H comprises a Physical Coding Sublayer (PCS) and a Physical Medium Attachment (PMA) sublayer that supports Physical Medium Dependent sublayers (PMD) for operation at 1000 Mb/s over duplex plastic optical fiber (POF) as the transmission medium. Three port types with different PMDs are defined: 1000BASE-RHA, 1000BASE-RHB, and 1000BASE-RHC (collectively referred to as 1000BASE-RHx)".

For consistency:
Pg 43, line 30: change "1000BASE-H family of PHYs" to "1000BASE-H set of PHYs".
Pg 115, line 13: change "1000BASE-RHx" to "1000BASE-H".
Pg 115, line 14: delete "1000BASE-RHx"
Pg 86, line 48: "1000BASE-RHx PHYs" to "PHYs in the 1000BASE-H set".
Pg 115, line 40: "The 1000BASE-RHx PHY" to "PHYs in the 1000BASE-H set"
Pg 115, lines 47 and 48: "1000BASE-H based PHYs" to "PHYs in the 1000BASE-H set"

Search for locations when "1000BASE-H PHY" is used and replace with "1000BASE-H based PHY" with proper gramar changes.

Cl **114** *SC* **114.9.1** *P* **108** *L* **35** # 7

John, D'Ambrosia — Futurewei, Subsidiary

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

In the pics related to this section, only the STA transmission has a SHALL statement. IT would seem that the other main areas should have a corresponding "shall"

Local PHY acceptance simultaneous operation
acceptance of a new message for transmission
PHY reset

SuggestedRemedy

Review entire subclause -
add 1000BASE-H Tx and 1000BASE-H Rx PICS
add specific PICS to the different operations noted above.

Response *Response Status* **U**

REJECT.

STA transmission of a 1000BASE-H OAM message has a SHALL statement in Pg 108, line 26.
STA reception of a 1000BASE-H OAM message has a SHALL statement in Pg 110, line 28.

SHALL statements for PHY operation are:
Pg 112, line 47: "The PHY operation for 1000BASE-H OAM message transmission shall conform to the 1000BASE-H OAM transmit control state diagram in Figure 114–38."
and
Pg 114, line 6: "The PHY operation for 1000BASE-H OAM message reception shall conform to the 1000BASE-H OAM receive control state diagram in Figure 114–39."

Cl **114** *SC* **114.9.2** *P* **109** *L* **4** # 8

John, D'Ambrosia — Futurewei, Subsidiary

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

No associated SHALL statements for channel status messages.

SuggestedRemedy

add appropriate SHALL statements

Response *Response Status* **U**

REJECT.

1000BASE-H OAM channel status is a consequence of the PHY operation according to the state diagrams of Figure 114-38 and Figure 114-39.
The shall statements are on the state diagrams, as indicated in response to comment #7.
A general shall here would be redundant with those more detailed shall requirements.

Cl **1** *SC* **1.4.22a** *P* **21** *L* **25** # 9

Kobayashi, Shigeru — TE Connectivity

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

If "IEEE Std. 802.3" of IEEE Std. 802.3 Clause 114." indicates Clause 114 in this document, "IEEE Std. 802.3" is redundant.

SuggestedRemedy

Remove "IEEE Std. 802.3."

Response *Response Status* **C**

REJECT.

The commenter is encouraged to look at IEEE Std 802.3 to see this is the style for definitions. They are written this way, so they can be put directly (without editing) into the IEEE Standards Dictionary.

Cl **1** *SC* **1.4.26a** *P* **21** *L* **31** # 10

Kobayashi, Shigeru — TE Connectivity

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

Same as above

SuggestedRemedy

Same as above

Response *Response Status* **C**

REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.26b** *P* **21** *L* **35** # 11

Kobayashi, Shigeru — TE Connectivity

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

Same as above

SuggestedRemedy

Same as above

Response *Response Status* **C**

REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.26c** *P* **21** *L* **39** # 12
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.26d** *P* **21** *L* **43** # 13
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.91** *P* **21** *L* **50** # 14
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.277c** *P* **22** *L* **17** # 15
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.326a** *P* **22** *L* **22** # 16
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.326b** *P* **22** *L* **26** # 17
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.326c** *P* **22** *L* **29** # 18
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.401** *P* **22** *L* **34** # 19
Kobayashi, Shigeru TE Connectivity

Comment Type **E** *Comment Status* **R**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
REJECT.

See response to comment #9.

Cl **1** *SC* **1.4.26a** *P* **21** *L* **30** # 20
Kobayashi, Shigeru TE Connectivity

Comment Type **T** *Comment Status* **A**
"red wavelength" is not a technical term. Any wavelength does not has color but human beings feel as colored light in the specific wavelength range.

SuggestedRemedy
Change "red wavelength" to "650 nm-wavelength", or "red light". Or remove it.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Replace with "red light (approximately 650 nm)"

Cl **1** *SC* **1.4.26b** *P* **21** *L* **35** # 21
Kobayashi, Shigeru TE Connectivity

Comment Type **T** *Comment Status* **A**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

See response to comment #20.

Cl **1** *SC* **1.4.26c** *P* **21** *L* **39** # 22
Kobayashi, Shigeru TE Connectivity

Comment Type **T** *Comment Status* **A**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

See response to comment #20.

Cl **1** *SC* **1.4.26d** *P* **21** *L* **43** # 23
Kobayashi, Shigeru TE Connectivity

Comment Type **T** *Comment Status* **A**
Same as above

SuggestedRemedy
Same as above

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

See response to comment #20.

Cl **114** *SC* **114.2** *P* **46** *L* **8** # 24

Kobayashi, Shigeru TE Connectivity

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

"Multi-Level Coset Code" is already defined as MLCC in 1.5 Abbreviations.

SuggestedRemedy

Remove "Multi-Level Coset Code" here

Response *Response Status* **C**

REJECT.

Though only the acronym could be used as suggested, it is friendly to the reader to use the acronym expansion followed by the acronym is parentheses at the first use in a clause or sometimes even in text separated by significant distance from first use in the clause.

Cl **114** *SC* **114.2** *P* **46** *L* **7** # 25

Kobayashi, Shigeru TE Connectivity

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

"Physical Data Blocks" is already defined as PDB in 1.5 Abbreviations

SuggestedRemedy

Remove "Physical Data Blocks" here

Response *Response Status* **C**

REJECT.

See response to comment #24.

Cl **114** *SC* **114.2.4.1** *P* **52** *L* **31** # 26

Kobayashi, Shigeru TE Connectivity

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

Same as above

SuggestedRemedy

Same as above

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace Pg 52, line 31, with:
"The 64B/65B encoder generates a stream of PDBs, which are serially transmitted to the binary scrambler."

Cl **114** *SC* **114** *P* **43** *L* **1** # 27

Kobayashi, Shigeru TE Connectivity

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

PCS, PMA and PMD are shown many in this document, and most of them are indicate its full-word and abbreviation like "Physical Coding Sublayer (PCS)"

SuggestedRemedy

Please define those terms in 1.5 Abbreviations and use abbreviations later.

Response *Response Status* **C**

REJECT.

IEEE style is to include full expansion of an acronym followed by the acronym in parenthesis in titles (document, clause and subclause if first use), and optionally in figures. Also including both for first use in text is specifically indicated per IEEE style.

These items are already defined in 1.4 and are listed in 1.5 of IEEE Std 802.3-2015. Therefore, we do not need to repeat the definitions in 802.3bv.

Cl **1** *SC* **1.5** *P* **22** *L* # 28

Kobayashi, Shigeru TE Connectivity

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

PHD, PHS, and POF are the same as above.

SuggestedRemedy

Please use abbreviations later.

Response *Response Status* **C**

REJECT.

IEEE style is to include full expansion of an acronym followed by the acronym in parenthesis in titles (document, clause and subclause if first use), and optionally in figures. Also including both for first use in text is specifically indicated per IEEE style.

Cl **114** *SC* **114.6.4.5** *P* **98** *L* **27** # 29

Kobayashi, Shigeru TE Connectivity

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

(ER) has to be added unit.

SuggestedRemedy

(ER in dB)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add "(dB)" unit to equation (114-30).

Cl **114** *SC* **114.6.4.6** *P* **98** *L* **48** # 30

Kobayashi, Shigeru TE Connectivity

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

(mW) is fair but other unit shows with "in" in this page.

SuggestedRemedy

Please show as (in mW) or others remove "in".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "in".

Cl **114** *SC* **114.11** *P* **116** *L* **16** # 31

Pérez-Aranda, Rubén KDPOF

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

Transmit disable mapping could be added to be consistent with the mapping of signal detect management functionality.
For 1000BASE-RHx, transmit disable should produce the same effect of power down, since PHY receiver needs of PHY transmitter to provide any functionality

SuggestedRemedy

Add variable mapping for Global PMD transmit disable register bit 1.9.0 to link_control.
Modify Table 114-6 adding 2 rows as follow:
+ Global PMD transmit disable = 1 | PMD transmit disable register | 1.9.0 | link_control = DISABLE
+ Global PMD transmit disable = 0 | PMD transmit disable register | 1.9.0 | link_control = ENABLE

Response *Response Status* **C**

ACCEPT.

Cl **114** *SC* **114.6.3.1** *P* **95** *L* **22** # 32

Pérez-Aranda, Rubén KDPOF

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

Fall edge overshoot specification is calculated considering the maximum value of the ER specification. To do that, it is taken into account that the minimum value of optical power transmit signal has to be larger than 0 to prevent signal clipping/saturation. The same limit is specified for rising edge overshoot, because symetry and linearity of the signal transient.
In the market can be implementations of the PMD transmit function with accurate control of the ER in an small range (considering aging, temperature, process,etc) and other implementations where larger ER variations are permitted. Both implementations, being valid for GEPOF operation, are able to allow different levels of overshoot for correct operation.
The implementation with narrower control of ER can permit larger levels of overshoot while meets the criterion of no clipping. On the other hand, the implementations with larger variations of ER should take care of providing more controlled overshoot, to prevent cliping.
Being said that, the maximum value of the overshoot specification should be dependent on the actual ER, but not on the maximum specified ER. This would produce a less constrained specification easier to implement.

SuggestedRemedy

In Table 114-8, replace value of Max column for Overshoot parameter with:
"100/(10^(ER/10) - 1) a)"
Add footnote a): "Maximum permitted overshoot depends on the actual value of the transmit optical signal extinction ratio per provided equation."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change footnote to:
"Maximum permitted overshoot depends on the actual transmit ER. The equation gives the maximum permitted overshoot as a function of the actual ER (dB)."

Cl **114** *SC* **114.2.2.1** *P* **48** *L* **43** # 33

Amason, Dale NXP Semiconductors

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

feedbacks is used as a verb in this sentence and is not a word.

SuggestedRemedy

The proper verb tense is captured below:
A modulo-2 adder from bits 21 and 24 feeds back to the input of r[0].

Change "feedbacks" to "feeds back".

Response *Response Status* **C**

ACCEPT.

Cl **114** *SC* **114.3.5.2** *P* **72** *L* **2** # 34

Law, David — Hewlett Packard Enter

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

It appears that the state diagrams have not been drawn in Framemaker, for future maintainability please redraw all state diagrams using the native Framemaker drawing tools. In addition please follow the normal practice of the exit from states being at the bottom of the box, not from the side (e.g Figure 114–29—PHY quality monitor state diagram), and the flow being from top to bottom, not bottom to top (e.g. Figure 114–28—Adaptive THP REQ state diagram).

SuggestedRemedy

Please replace non-Framemaker figures with the new figures in 8023-114_figure_comments_DL_060516.pdf attached to this comment.

Response *Response Status* **U**

ACCEPT.

Cl **114** *SC* **114.7** *P* **103** *L* **39** # 35

Law, David — Hewlett Packard Enter

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

The first sentence of subclause 114.7 'Characteristics of the fiber optic cabling (channel)' states that 'The fiber optic cable requirements are satisfied by cables containing IEC 60793-2-40 sub-category A4a.2 multimode plastic optical fibers.'. It is then stated that three fiber optic channel types are specified, and each of the types specified have a transfer function specification. On reading the response to unresolved D2.0 comment #159 it appears that this is placing additional requirements on the cables, over and above, but not in conflict with, IEC 60793-2-40 sub-category A4a. If this is the case this should be stated in the opening paragraph.

SuggestedRemedy

Suggest the first sentence of subclause 114.7 be changed to read '1000BASE-RHx operation requires fiber optic cable meeting the requirements of IEC 60793-2-40 sub-category A4a.2 multimode plastic optical fibers with appropriate augmentation as specified in this subclause.'.

Response *Response Status* **U**

ACCEPT.

Cl **114** *SC* **114.2.2.1** *P* **48** *L* **24** # 36

Pérez-Aranda, Rubén — KDPOF

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

The requirement for the MLS generator used to generate the pilot S1 sub-block seems to be actually stated twice (page 48 line 24 and line 49), unless the shall statement of line 49 is intepreted as an additional reuirement to the figure 114-7.

SuggestedRemedy

Replace line 49 with:
"The shift-register of Figure 114–7 shall produce the same result as the following MATLAB (see 1.3) code."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Suggested remedy does not solve the comment.

Pg 48, line 24 through 28, change to:
"The S1 generator shall produce an output of one pilot S1 sub-block per Transmit Block equivalent to the following steps:
1) A maximum length sequence (MLS) generator that produces the same output as the following MATLAB(footnote 2) (see 1.3) code(footnote 3) is used to generate a 128-bit binary sequence. This MATLAB code produces the same sequence as the shift register shown in Figure 114–7 to generate a 128-bit binary sequence when the shift register is initialized for each pilot S1 sub-block generation with hexadecimal value of 0x172DB9D.
<< move MATLAB code of Pg 49, lines 1 through 8, to here >>
The variable len is the length of the sequence to be generated (len = 128 for S1), the variable out is the binary output, and the variable seed is the initialization value of the shift register (seed = '172DB9D')."

Delete Pg 48, lines 49 and 50.

Change Pg 49, line 27 to:
"The S2 generator shall produce an output of 13 pilot S2 sub-blocks per Transmit Block equivalent to the following steps:"

Cl **114** *SC* **114.2.2.1** *P* **48** *L* **54** # 37

Pérez-Aranda, Rubén — KDPOF

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

Add period to the end of the footnote 3).

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **114** *SC* **114.2.4.3.1** *P* **58** *L* **5** # 38

Pérez-Aranda, Rubén KDPOF

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

Several uses of "transfered" that should be "transferred"

SuggestedRemedy

Per comment

Response *Response Status* **C**

ACCEPT.

Cl **114** *SC* **114.2.4.3.1** *P* **57** *L* **51** # 39

Pérez-Aranda, Rubén KDPOF

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

Requirement can be improved including in an unique shall statement the specific bits transferred to each MLCC level. The figure that has been deleted from D2.0 to D2.1 can be included again to illustrate demultiplexing process.

SuggestedRemedy

Replace the text of sublause 114.2.4.3.1 with:
"The 3150 information bits to be encoded in an MLCC codeword shall be demultiplexed in two flows, being the bits 7xk + j, for all k from 0 through 416 and all j from 0 through 3, transferred to the BCH encoder of the first MLCC level, and being the bits 7xk + j, for all k from 0 through 416 and all j from 4 through 6, and the bits from 2919 through 3149 transferred to the second MLCC level, preserving the relative bit ordering in each flow.

Figure 114-17a illustrates the operation of the MLCC demultiplexer. In Figure 114-17a, bit quadruples a_i with i from 0 through 416 and bit triples b_i with i from 0 through 493 are the portions of information transferred to the first and to the second MLCC level, respectively. The term “4b” represents four bits groups, and the term “3b” represents three bits groups."

Add in Figure 114-17a, the figure 114-20 of D2.0.

Response *Response Status* **C**

ACCEPT.

Cl **114** *SC* **114** *P* **43** *L* **24** # 40

Pérez-Aranda, Rubén KDPOF

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

The term "in-line" connection is used to indicate a connection used to connect fiber optic cable sections together. However, it is more common in 802.3 the use of the term "intermediate" connection. See for example clause 88.11.

SuggestedRemedy

Change "in-line" with "intermediate"

Response *Response Status* **C**

REJECT.

Cl **114** *SC* **114.7** *P* **103** *L* **40** # 41

Pérez-Aranda, Rubén KDPOF

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

The fiber optic cabling model (channel) is not clearly defined as the cable from MDI to MDI.

SuggestedRemedy

Add new subclause just before the subclause 114.7, for "Fiber optic cabling model". Add a figure to illustrate the model. Move the following text from 114.7 to new subclause:
"A link uses two fibers, one for each direction (see 114.1.5). The fiber optic cabling model (channel) defined here is a simplex fiber optic link segment, which is sufficient for testing purposes."

Delete: "The term channel is used here for consistency with generic cabling standards."

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **FM** *SC* **FM** *P* **15** *L* # 42

Thompson, Geoff GraCaSI S.A.

Comment Type **ER** *Comment Status* **D**

Pagination is incorrect. There are two instances of pages 15 and 16 in the compare draft

SuggestedRemedy

Correct to match 802.3 draft convention so that printed page numbers match PDF page numbers.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

The clean version is correctly numbered for 802.3 balloting conventions.
For future versions of the draft, update pagination / references of the book that includes the compare documents.

Cl **114** *SC* **114.12.5** *P* **117** *L* **30** # 43

Thompson, Geoff GraCaSI S.A.

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

Introductory clause is conditional, needs to be unconditional.

SuggestedRemedy

Change intro clause from: “Even when... to this clause,” to: “In all cases...”

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change first sentence to read: "1000BASE-RHx transceivers shall be Hazard Level 1 laser certified under any condition of operation, including a LED as the optical signal source."

Add LED expansion to 1.5.

Cl **00** *SC* **0** *P* *L* # 44

Thompson, Geoff GraCaSI S.A.

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

RE: Response to comment D2.0 #239. Response is unsatisfactory, untrue and non-responsive. Without a cited specification for either a standard connector or a standard procedure for cutting a fiber and testing the termination this proposed standard doesn't have a prayer in the consumer commodity market and therfore FAILS the Broad Market Potential criterium.

SuggestedRemedy

See D2.0 comment 239

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

For automotive applications (RHC), the specification of the MDI connector is expected to be developed in other standardization body. ISO/TC 22/SC 32/WG10 has the mission of producing the specification of a MDI connector for GEPOF, among others specifications for automotive use of 1000BASE-RHC PHYs, like intermediate connectors, cable, harness, environmental tests, etc.

For industrial automation applications (RHB), many MDI connectors are already standardized for cables IEC 60794-2-41 (buffered A4 fibers): SMA, ST, FC, SC, SC-RJ, Versatile Link, SMI, etc. Selection of the connector depends on the specific application, and it is outside the objectives of this standard to point a default connector.

For home-network applications (RHA) there is not standardized MDI connectors in ISO, IEC, etc, therefore no pointer can be provided. However, the extended practice from many years in POF consumer grade products is that plug-less terminated IEC 60794-2-41 POF cables are connected to the PMD through a receptacle in the MDI.
The minimum set of specifications for interoperability has been identified by the P802.3bv MDI ad-hoc group.

Replace the MDI subclause with the text in RHA_MDI_proposal_8023bv_240516.pdf.

Cl **00** *SC* **0** *P* *L* # 45

Thompson, Geoff GraCaSI S.A.

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

RE: Further response to comment D2.0 #239. Without a cited standard for how to parse the link budget for facilities installation and qualify installed facilities fiber you cannot achieve a consumer commodity standard.

SuggestedRemedy

See D2.0 comment 239

Response *Response Status* **U**

REJECT.

The draft provides the pointers to the standards requested by the commenter.

In 114.7.4 is stated:
"The fiber optic channel shall meet the insertion loss specification per measurement according to ISO/IEC 14763-3, under spectral distribution and launch modal power distribution at TP2 specified per EAF lower bound limits in 114.6.3.1."

In 114.7.5 is stated:
"The fiber optic channel shall meet the transfer function specification per measurement according to IEC 60793-1-41, under spectral distribution and launch modal power distribution at TP2 specified per EAF lower bound limits in 114.6.3.1."

In 114.6.4.11 is stated:
"The modal power distribution (MPD) at TP2 shall meet the specifications of 114.6.3.1 using an encircled angular flux (EAF) measurement method based on two-dimensional far field pattern data captured at TP2, which conforms to IEC 61300-3-53, defined for step-index multimode fibers."

Cl **00** *SC* **0** *P* *L* # 46

Thompson, Geoff GraCaSI S.A.

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

Pile-on to D2.0 Comment #209

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The same terminology is used in other clauses. See 802.3-2015, clauses: 87.10, 88.10, 89.9, 68.8, 75.9.1, 58.9.1, 59.9.1, etc etc.

Add a figure similar to Figure 87-6 at the beginning of 114.7 to define the fiber optics channel.

Pg 104, line 16, change to:
"The number of supported in-line connections is not normative but instead depends on the specific in-line connection technology and the unallocated link margin (see 114.7.6)."

Editor to search clause 114 and replace "link" with "link segment" when appropriate.

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

Thompson, Geoff GraCaSI S.A.

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

Pile-on to D2.0 Comment #155

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In Pg 104, line 13, it is stated:
"Any fiber optic channel including in-line connections shall meet the transfer function specification of each type. The number of supported in-line connections is not normative but instead depends on the specific in-line connection technology." (approved comment #40, term "in-line" will be replaced by "intermediate").

In 114.7.4 and 114.7.5 are provided pointers to ISO/IEC standards of measurement methods of the insertion loss and the transfer function of the channel, respectively.

The link budget is given by the difference between min AOP in TP2 and the min AOP in TP3. The channel insertion loss is specified. So, as stated in 114.7.6, unallocated link margin may be used for in-line connections (connectors).

This comment is solved with changes of comment #46

Cl **00** *SC* **0** *P* *L* # 48

Thompson, Geoff GraCaSI S.A.

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

Pile-on to D2.0 Comment #171 & 173 with addition. It is expected that the first publication of 802.3bv as a standard will be as a standalone document, therefore your grounds for rejection are invalid.

SuggestedRemedy

The first use of MATLAB must properly indicate that it is a trademark. Insert "T" or appropriate symbol and a footnote if needed.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Though we copied IEEE Std 802.3bw-2015 for how the Matlab trademark was handled, and it similarly was not properly identified in IEEE Std 802.3 2015, we will follow the Style Manual. We do that by inserting the circle(R) missing on first use (114.2.2.1, p.48, l.50).

Cl **1** *SC* **1.4.91** *P* **21** *L* **48** # 49

Brown, Matt Applied Micro

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

The amendments to the definition are superfluous and gratuitous. The definition in 802.3-2015 does not impose particular details on related clauses other than the use of the first bit to differentiate data and control blocks. The phrase "mix of data and control" can mean no data and some control without the additional parenthetical. The new phrase "a set of" implies an intential group.

The IEEE-SA standards style manual says: "Each definition should be a brief, self-contained description of the term in question and shall
not contain any other information, such as requirements or elaborative text."

I would consider the amended text to be elaborative. It is also becoming prescriptive as it is dictating how the coding is to be specified.

SuggestedRemedy

Delete all changes to the definition, except addition of the cross reference to Clause 114.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change definition to:
"A block oriented encoding where 64-bit blocks are prepended with a single bit to indicate whether the block contains only data or a mix of data and control information. The details of each 64B/65B encoding are specific to the PCS. (See IEEE Std 802.3, Clause 55, Clause 114.)"

The remaining changes provide information for the reader to understand that there are several codes that are different, but these codes share the name (i.e. 64B/65B) and the property of prepending a single bit to indicate whether the block contains only data or a mix of data and control information.