

IEEE P802.3bv D2.1 GEPOF 1st Working Group recirculation ballot comments

CI 114 SC 114.6.3.3 P96 L34 # 1 [REDACTED]  
 McDermott, Thomas Fujitsu

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

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".

*Proposed Response* Response Status **O**

CI 114 SC 114.1.3 P44 L10 # 2 [REDACTED]  
 Chalupsky, David Intel

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

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

*Proposed Response* Response Status **O**

CI 114 SC 114.13 P17 L39 # 3 [REDACTED]  
 John, D'Ambrosia Futurewei, Subsidiary

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

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

*SuggestedRemedy*

Moove 114.13 to before 114.12

*Proposed Response* Response Status **O**

CI 114 SC 114 P43 L1 # 4 [REDACTED]  
 John, D'Ambrosia Futurewei, Subsidiary

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

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

*SuggestedRemedy*

remove "R" from PHY names.

*Proposed Response* Response Status **O**

CI 114 SC 114.2.4.1.1 P52 L44 # 5 [REDACTED]  
 John, D'Ambrosia Futurewei, Subsidiary

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

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

*SuggestedRemedy*

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

*Proposed Response* Response Status **O**

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Cl 114 SC 114.1 P43 L8 # 6 [REDACTED]  
 John, D'Ambrosia Futurewei, Subsidiary

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

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"

Proposed Response Response Status **O**

Cl 114 SC 114.9.1 P108 L35 # 7 [REDACTED]  
 John, D'Ambrosia Futurewei, Subsidiary

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

In the pics related tot his 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.

Proposed Response Response Status **O**

Cl 114 SC 114.9.2 P109 L4 # 8 [REDACTED]  
 John, D'Ambrosia Futurewei, Subsidiary

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

No associated SHALL statements for channel status messages.

*SuggestedRemedy*

add appropriate SHALL statements

Proposed Response Response Status **O**

Cl 1 SC 1.4.22a P21 L25 # 9 [REDACTED]  
 Kobayashi, Shigeru TE Connectivity

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

If "IEEE Std. 802.3" of IEEE Std. 802.3 Clause 144." indicates Clause 144 in this document, "IEEE Std. 802." is redundant.

*SuggestedRemedy*

Remove "IEEE Std. 802.3."

Proposed Response Response Status **O**

Cl 1 SC 1.4.26a P21 L31 # 10 [REDACTED]  
 Kobayashi, Shigeru TE Connectivity

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

Same as above

*SuggestedRemedy*

Same as above

Proposed Response Response Status **O**

Cl 1 SC 1.4.26b P21 L35 # 11 [REDACTED]  
 Kobayashi, Shigeru TE Connectivity

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

Same as above

*SuggestedRemedy*

Same as above

Proposed Response Response Status **O**

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Cl 1 SC 1.4.26c P21 L39 # 12  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.326a P22 L22 # 16  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.26d P21 L43 # 13  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.326b P22 L26 # 17  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.91 P21 L50 # 14  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.326c P22 L29 # 18  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.277c P22 L17 # 15  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.401 P22 L34 # 19  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

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Cl 1 SC 1.4.26a P21 L30 # 20  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type T Comment Status X  
 "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.  
 Proposed Response Response Status O

Cl 114 SC 114.2 P46 L8 # 24  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 "Multi-Level Coset Code" is already defined as MLCC in 1.5 Abbreviations.  
 SuggestedRemedy  
 Remove "Multi-Level Coset Code" here  
 Proposed Response Response Status O

Cl 1 SC 1.4.26b P21 L35 # 21  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type T Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 114 SC 114.2 P46 L7 # 25  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 "Physical Data Blocks" is already defined as PDB in 1.5 Abbreviations  
 SuggestedRemedy  
 Remove "Physical Data Blocks" here  
 Proposed Response Response Status O

Cl 1 SC 1.4.26c P21 L39 # 22  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type T Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 114 SC 114.2.4.1 P52 L31 # 26  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 1 SC 1.4.26d P21 L43 # 23  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type T Comment Status X  
 Same as above  
 SuggestedRemedy  
 Same as above  
 Proposed Response Response Status O

Cl 114 SC 114 P43 L1 # 27  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 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.  
 Proposed Response Response Status O

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Cl 1 SC 1.5 P22 L # 28  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 PHD, PHS, and POF are the same as above.  
 SuggestedRemedy  
 Please use abbreviations later.  
 Proposed Response Response Status O

Cl 114 SC 114.6.4.5 P98 L27 # 29  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 (ER) has to be added unit.  
 SuggestedRemedy  
 (ER in dB)  
 Proposed Response Response Status O

Cl 114 SC 114.6.4.6 P98 L48 # 30  
 Kobayashi, Shigeru TE Connectivity  
 Comment Type E Comment Status X  
 (mW) is fair but other unit shows with "in" in this page.  
 SuggestedRemedy  
 Please show as (in mW) or others remove "in".  
 Proposed Response Response Status O

Cl 114 SC 114.11 P116 L16 # 31  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status X  
 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  
 Proposed Response Response Status O

Cl 114 SC 114.6.3.1 P95 L22 # 32  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status X  
 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 symmetry 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 clipping. 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."  
 Proposed Response Response Status O

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Cl 114 SC 114.2.2.1 P48 L43 # 33  
 Amason, Dale NXP Semiconductors

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

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".

Proposed Response Response Status **O**

Cl 114 SC 114.3.5.2 P72 L2 # 34  
 Law, David Hewlett Packard Enter

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

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.

Proposed Response Response Status **O**

Cl 114 SC 114.7 P103 L39 # 35  
 Law, David Hewlett Packard Enter

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

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.'.

Proposed Response Response Status **O**

Cl 114 SC 114.2.2.1 P48 L24 # 36  
 Pérez-Aranda, Rubén KDPOF

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

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 interpreted as an additional requirement 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."

Proposed Response Response Status **O**

Cl 114 SC 114.2.2.1 P48 L54 # 37  
 Pérez-Aranda, Rubén KDPOF

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

Add period to the end of the footnote 3).

*SuggestedRemedy*

Per comment

Proposed Response Response Status **O**

IEEE P802.3bv D2.1 GEPOF 1st Working Group recirculation ballot comments

Cl 114 SC 114.2.4.3.1 P58 L5 # 38  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status X  
 Several uses of "transferred" that should be "transferred"  
 SuggestedRemedy  
 Per comment  
 Proposed Response Response Status O

Cl 114 SC 114.2.4.3.1 P57 L51 # 39  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status X  
 Requirement can be improved including 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 subclause 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  $7 \times k + j$ , 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  $7 \times k + j$ , 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.  
 Proposed Response Response Status O

Cl 114 SC 114 P43 L24 # 40  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type E Comment Status X  
 The term "in-line" connection is used to indicate a connection used to connect fiber optic cable sections together. However, in 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"  
 Proposed Response Response Status O

Cl 114 SC 114.7 P103 L40 # 41  
 Pérez-Aranda, Rubén KDPOF  
 Comment Type T Comment Status X  
 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. 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 O

Cl FM SC FM P15 L # 42  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type ER Comment Status X  
 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 O

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Cl 114 SC 114.12.5 P117 L30 # 43  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type **TR** Comment Status **X**  
 Introductory clause is conditional, needs to be unconditional.  
 SuggestedRemedy  
 Change intro clause from: "Even when... to this clause," to: "In all cases..."  
 Proposed Response Response Status **O**

Cl 00 SC 0 P L # 46  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type **TR** Comment Status **X**  
 Pile-on to D2.0 Comment #209  
 SuggestedRemedy  
 Proposed Response Response Status **O**

Cl 00 SC 0 P L # 44  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type **TR** Comment Status **X**  
 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 therefore FAILS the Broad Market Potential criterium.  
 SuggestedRemedy  
 See D2.0 comment 239  
 Proposed Response Response Status **O**

Cl 00 SC 0 P L # 47  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type **TR** Comment Status **X**  
 Pile-on to D2.0 Comment #155  
 SuggestedRemedy  
 Proposed Response Response Status **O**

Cl 00 SC 0 P L # 45  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type **TR** Comment Status **X**  
 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  
 Proposed Response Response Status **O**

Cl 00 SC 0 P L # 48  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type **ER** Comment Status **X**  
 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.  
 Proposed Response Response Status **O**



IEEE P802.3bv D2.1 GEPOF 1st Working Group recirculation ballot comments

Cl 1 SC 1.4.91 P21 L48 # 49  
Brown, Matt Applied Micro

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

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 intentional 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 test to be elaborative. It is also becoming prescriptive as it is dictating how the coding is to be specified.

*Suggested Remedy*

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

Proposed Response Response Status **O**