Cl **01** *SC* **1.4.394** *P* **21** *L* **8** # r01-1

Healey, Adam — Avago Technologies

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

In IEEE P802.3/D3.1, "eight nanoseconds" has been changed to "8 ns".

SuggestedRemedy

Change the base text to align with the current draft of the IEEE 802.3 revision. Change the amended text to be consistent with the base text e.g., "fifteen nanoseconds" becomes "15 ns".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.10.a** *P* **25** *L* **52** # r01-2

Healey, Adam — Avago Technologies

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

Something seems to have gone wrong with the subclause and table numbering. It seems that the inserted sublcause should be 45.2.1.14a and the inserted table should be Table 45-17a. The instruction says to insert Table 45-16a but this should be Table 45-17a (assuming the table number is corrected).

SuggestedRemedy

Update the instruction, subclause, and table numbering to be consistent.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1** *P* **29** *L* **2** # r01-3

Healey, Adam — Avago Technologies

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

In Figure 96-2, the righhand stack is labeled "LAN CSMA/CD LAYERS". Does 100BASE-T1 support half-duplex mode? If not, then CSMA/CD is not appropriate.

SuggestedRemedy

Since IEEE 802.3 is the "Standard for Ethernet", this discrepancy was resolved in the revision by labeling the stack as "ETHERNET LAYERS". Change the diagram accordingly.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.392a** *P* **21** *L* **39** # r01-4

Healey, Adam — Avago Technologies

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

SYMB_1D is a parameter of a service interface primitive and it does not belong in the Definitions subclause.

SuggestedRemedy

Remove SYMB_1D definition.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **0** *L* **0** # r01-5

Turner, Michelle

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

This draft meets all editorial requirements.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.193** *P* **20** *L* **10** # r01-6

Law, David — Hewlett-Packard Ltd

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

The cross reference to subclause 96.3.2.4.5 in respect to the ESD seems to be incorrect as I can't find subclause 96.3.2.4.5. Potential references could be 96.3.3.2 'PCS Transmit state diagram' and 96.3.3.3.5 'Generation of ternary pair (TAn, TBn)', however in both cases the ESD is described in terms of symbols rather than code-groups, and I note the definition states '... the SSD consists of three code-groups ...'. A better subclause therefore may be 96.3.3.2.1 'Variables' as it defines the three ESD code-groups.

SuggestedRemedy

Suggest 96.3.2.4.5 should read either 96.3.3.2 or 96.3.3.2.1.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.390** *P* **20** *L* **50** # r01-7

Law, David Hewlett-Packard Ltd

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

The cross reference to subclause 96.3.2.4.5 in respect to the SSD seems to be incorrect as I can't find subclause 96.3.2.4.5. Potential references could be 96.3.3.2 'PCS Transmit state diagram' and 96.3.3.3.5 'Generation of ternary pair (TAn, TBn)', however in both cases the SSD is described in terms of symbols rather than code-groups, and I note the definition states '... the SSD consists of three code-groups ...'. A better subclause therefore may be 96.3.3.2.1 'Variables' as it defines the three SSD code-groups.

SuggestedRemedy

Suggest 96.3.2.4.5 should read either 96.3.3.2, 96.3.3.3.5 or 96.3.3.2.1.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.390** *P* **20** *L* **46** # r01-8

Law, David Hewlett-Packard Ltd

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

The base text does not match the text in IEEE Std 802.3-2012 or IEEE 802.3bx, for some reason 'sosb' has been deleted from code-groups in relation to 100BASE-T4.

SuggestedRemedy

Restore the base text to that found in IEEE Std 802.3-2012 or IEEE 802.3bx, change the text '... three predefined code-groups ...' to read '... three predefined sosb code-groups ...'.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.87a** *P* **21** *L* **29** # r01-9

Law, David Hewlett-Packard Ltd

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

The cross reference to subclause 96.3.2.2.2 in respect to 4B/3B seems to be incorrect, I can't find subclause 96.3.2.2.2, and 4B/3B conversion is defined in subclause 96.3.3.1.

SuggestedRemedy

Suggest 96.3.2.2.2 should read 96.3.3.1.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.5** *P* **21** *L* **51** # r01-10

Law, David Hewlett-Packard Ltd

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

The items are not in alphabetical order, for example DPI, EMC, DUT, RMS then LCL.

SuggestedRemedy

Place in in alphabetical order.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.2.1.2** *P* **34** *L* **8** # r01-11

Law, David Hewlett-Packard Ltd

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

The PMA_LINK.indication primitive has been deleted from the PMA service interface based on the alternative response to comment i-56 generated by the IEEE P802.3bw Task Force while meeting in May. While this makes sense from the point of view of getting rid of the Technology Dependant Interface, this primitive is also used to pass link_status to the PCS as stated in subclause 96.3.3.1 'Variables' which reads 'The link_status parameter set by PMA Link Monitor and passed to the PCS via the PMA_LINK.indication primitive.'. Based on this the PMA_LINK.indication primitive needs to be added to the PMA service

SuggestedRemedy

[1] In Figure 96-2 '100BASE-T1 PHY interfaces' add the primitive 'PMA_LINK.indication' between the PMA and the PCS with the arrow pointing in the direction of the PCS.

[2] In subclause 96.2.2 'PMA service interface' add 'PMA_LINK.indication (link_status)' to the list of service primitives.

[3] Add the following definition of the PMA_LINK.indication as a subclauses of subclause 96.2.2 'PMA service interface':

96.2.2.x PMA_LINK.indication

This primitive is generated by the PMA to indicate the status of the underlying medium as specified in 96.4.5. This primitive informs the PCS about the status of the underlying link.

96.2.2.x.1 Semantics of the primitive

PMA_LINK.indication (link_status)

The link_status parameter can take on one of two values: FAIL or OK.
FAIL No valid link established.
OK The Link Monitor function indicates that a valid 100BASE-T1 link is established. Reliable reception of signals transmitted from the remote PHY is possible.

96.2.2.x.2 When generated

The PMA generates this primitive continuously to indicate the value of link_status in compliance with the state diagram given in 96.4.5.

96.2.2.x.3 Effect of receipt

The effect of receipt of this primitive is specified in 96.4.5.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4** *P* **68** *L* **2** # r01-12

Law, David Hewlett-Packard Ltd

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

Please use the same font as the rest of the figure for the text 'MANAGEMENT' in the uppermost box. Please also center align the text left-right an top-bottom.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.5** *P* **70** *L* **43** # r01-13

Law, David Hewlett-Packard Ltd

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

Subclause 96.4.4 'PHY Control function' states that '... PMA_CONFIG is pre-determined to be Master or Slave via management
control during initialization ...'. I therefore I suggest that a similar statement, that 'management control', not just 'MANAGEMENT', be made in respect to link_control. I suggest similar changes for the description of the 'config' and the 'link_control' variables found in subclause 96.4.7.1 'State diagram variables' on page 58.

SuggestedRemedy

[1] Suggest that the text '... is used to set link_control to ENABLE through MANAGEMENT during ...' be changed to read 'is used to set link_control to ENABLE through management control during ...' on page 70, line 43.

[2] Suggest that the text 'The config parameter is set by MANAGEMENT and passed to the PMA and PCS.' be changed to read 'The config parameter is set by management and passed to the PMA and PCS.' on page 72, line 41.

[3] Suggest that the text 'This variable is generated by MANAGEMENT or set by default.' be changed to read ' This variable is generated by management or set by default.' on page 72, line 46.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2.2** *P* **32** *L* **52** # r01-14

Law, David Hewlett-Packard Ltd

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

The second paragraph of this subclause doesn't seem to be related to State Diagram Timer specifications.

SuggestedRemedy

Consider moving the second paragraph of this subclause elsewhere.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.4** *P* **94** *L* **44** # r01-15

Law, David Hewlett-Packard Ltd

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

PICS item PFM5 is missing a 'Status' and 'Support' value, in addition the font used seems different from the other PICS items in this table.

SuggestedRemedy

[1] Add 'M' to the 'Status' column.
[2] Add 'Yes [ ]' to the 'Support' column.
[3] Check the font is the same as the rest of the table.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.4** *P* **94** *L* **29** # r01-16

Law, David Hewlett-Packard Ltd

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

PICS item PMF1 should be updated to match the changes made to 96.4.1 in response to comment i-55.

SuggestedRemedy

Suggest the 'Value/Comment' field be updated to read 'Conform to 40.4.2.1, optional low power mode referenced in 36.2.5.1.3 not supported.'

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.4** *P* **94** *L* **34** # r01-17

Law, David Hewlett-Packard Ltd

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

When a PICS has a predicate condition dependent on the support of an option, the 'Support' field should be 'Yes [ ] N/A [ ]'. For example see item ES6 (page 100, line 42).

SuggestedRemedy

Update the 'Support' filed for the PICS item PMF2 and PMF3 to read:

Yes [ ]
N/A [ ]

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.4** *P* **94** *L* **41** # r01-18

Law, David Hewlett-Packard Ltd

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

Item 5 of the response to comment i-56 added a new shall statement to subclause 96.4.5 which read 'Link Monitor operation, as shown in state diagram of Figure 96-30, shall be provided to support PHY Control.' however a PICS item was not added.

SuggestedRemedy

Suggest that a new PICS item be included as follows:

Item: PMF5 (renumber following items)
Feature: Link Monitor function
Subclause: 96.4.5
Value/Comment: See Figure 96-30
Status: M
Support: Yes [ ]

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.5** *P* **95** *L* **12** # r01-19

Law, David Hewlett-Packard Ltd

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

Item PME2 states that 'The sensitivity of the PMA's receiver to radio frequency CM RF noise shall be tested according to the Direct Power Injection (DPI) method of IEC 62132-4 ...' and marks the item as 'M' (mandatory), yet the text in subclause 96.5.1.1 'Immunity - DPI test' states that 'The sensitivity of the PMA's receiver to radio frequency CM RF noise may be tested according to the Direct Power Injection (DPI) method of IEC 62132-4 ...', a 'shall' in the PICS but only a 'may' in the subclause.

SuggestedRemedy

Suggest that the text be updated to match the subclause text, and the 'Status' and 'Support' fields be updated to 'O' and 'Yes [ ] No [ ]'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.5** *P* **95** *L* **21** # r01-20

Law, David Hewlett-Packard Ltd

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

Item PME3 states that 'The emission of the PMA transmitter to its electrical environment shall be tested according to the 150 Ohm direct coupling method of IEC 61967-4 ...' and marks the item as 'M' (mandatory), yet the text in subclause 96.5.1.2 'Emission - Conducted emission test' states that 'The emission of the PMA transmitter to its electrical environment may be tested according to the 150 Ohm direct coupling method of IEC 61967-4 ...', a 'shall' in the PICS but only a 'may' in the subclause.

SuggestedRemedy

Suggest that the text be updated to match the subclause text, and the 'Status' and 'Support' fields be updated to 'O' and 'Yes [ ] No [ ]'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.5** *P* **95** *L* **6** # r01-21

Law, David Hewlett-Packard Ltd

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

Item PME1 states that '100BASE-T1 PHY shall comply with applicable local and national codes, or as agreed between customer and supplier ...'. yet the text in subclause 96.5.1 'EMC tests' which states 'A system integrating the 100BASE-T1 PHY shall comply with applicable local and national codes. In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier ...'. I don't think the use of the 'or' statement is correct in the PICS item as the subclause states that the system shall comply with applicable local and national codes but that 'in addition' it may comply with more stringent requirements as agreed.

SuggestedRemedy

Suggest the text be updated to just read "100BASE-T1 PHY shall comply with applicable local and national codes'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.2.2** *P* **36** *L* **17** # r01-22

Law, David Hewlett-Packard Ltd

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

In response to comment i-56, item 9 removed the primitive PMA_CONFIG.indication (config) and instead config was supplied by management. Suggest that Figures 96-6, 96-8 and 96-24 should be updated to reflect this.

SuggestedRemedy

In Figure 96-6 make the following changes:
[1] Delete the line labelled 'config' that crosses the boundary marked 'PMA SERVICE INTERFACE' between the two points where it connects to two other lines.
[2] Add a short line vertical line starting from the 'MANAGEMENT' box, this should be aligned with the dotted lined marked 'PMA SERVICE INTERFACE'.
[3] Add a horizontal line connected the line added in [2].
[4] Add vertical lines at each end of the line added in [3] to connected with the config line on the PCS side and PMA side.
[5] Add the label 'config' back to the figure.

In Figure 96-8 make the following changes:
[1] Delete the line labelled 'config' from the join to 'PMA SERVICE INTERFACE' boundary.
[2] Add a box at the top marked 'MANAGEMENT' with MDIO and MDC connections (see Figure 96-24 fo rexample).
[2] Add a vertical line from management box to exiting 'config' to signify 'config' being sourced from management.
[3] Add the label 'config' back to the figure.

In Figure 96-24 make the following changes:
[1] Delete the line labelled 'config' from the join to 'PMA SERVICE INTERFACE' boundary.
[2] Add the label 'config' back to the figure.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.2.8.3** *P* **39** *L* **54** # r01-23

Law, David Hewlett-Packard Ltd

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

Subclause 96.2.8.3 'Effect of receipt' lists subclause 96.2.2 as one of a number of references, however subclause 96.2.2 is 'PMA service interface' which just lists the primitives, including this one, and seems a somewhat circular.

SuggestedRemedy

Remove 96.2.2 from the list of references.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3** *P* **41** *L* **13** # r01-24

Law, David Hewlett-Packard Ltd

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

The text states 'The PCS Transmit function is explained in 96.3.2 ...' however based on the response to comment i-63 subclause 96.3.2 'PCS Transmit' has been removed, and subclause 96.3.4 is now 'PCS Transmit'.

SuggestedRemedy

Update the reference to subclause 96.3.2 to be to subclause 96.3.4.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.1** *P* **92** *L* **3** # r01-25

Law, David Hewlett-Packard Ltd

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

I think the reference for item PCT1 should be to 96.3.4.2 'PCS Transmit state diagram' rather than to 96.3.4.2.1 'Variables'.

SuggestedRemedy

In the subclause column change '96.3.4.2.1' to read '96.3.4.2'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.1** *P* **92** *L* **1** # r01-26

Law, David Hewlett-Packard Ltd

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

There is one 'shall' statement in subclause 96.3.4.1.1 'Control signals in 4B/3B conversion' and two in subclause 96.3.4.1.2 '4B/3B conversion for MII data' that appear to be missing PICS entries that apply to them.

SuggestedRemedy

Add if required.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.4.2.1** *P* **44** *L* **41** # r01-27

Law, David Hewlett-Packard Ltd

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

Suggest that '... is not multiple of three ..' should read '... is not a multiple of three ...' (line 41) and '... last nibble at MII RX domain ...' should read '... last nibble at the MII RX domain ...'.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.5** *P* **100** *L* **19** # r01-28

Law, David Hewlett-Packard Ltd

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

Not sure what the 'Yes' in the 'Value/Comment' field for items ES1, ES3, ES4, ES5 and ES6 is meant to mean.

SuggestedRemedy

Delete the 'Yes', the add new text as required or leave blank.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.5** *P* **100** *L* **22** # r01-29

Law, David Hewlett-Packard Ltd

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

Subclause 96.9.2 'Network Safety' states that 'In automotive applications, all 100BASE-T1 cabling shall be routed in way to provide maximum protection by the motor vehicle sheet metal and structural components, following SAE J1292, ISO 14229, and ISO 15764.'. Based on this item ES2 is not mandatory in all cases, but instead should be predicated on an automotive environment installation (AUTO, see 96.11.3).

SuggestedRemedy

[1] Change the 'Status' field to read: AUTO:M

[2] Change the 'Support' field to read:

Yes [ ]
N/A [ ]

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.9.2.1** *P* **89** *L* **10** # r01-30

Law, David Hewlett-Packard Ltd

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

I don't think the environmental stresses with respect to mounting location requirements listed here should be placed on all 100BASE-T applications, only where it is being used in an automotive application.

SuggestedRemedy

[1] Change the text 'All equipment subject to this clause shall conform ...' to read ' In automotive applications, all equipment subject to this clause shall conform ...'.

[2] Update the PICS item ES3 to match the above change as follows.

[2a] Change the 'Status' field to read: AUTO:M

[2b] Change the 'Support' field to read:

Yes [ ]
N/A [ ]

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.5** *P* **100** *L* **19** # r01-31

Law, David Hewlett-Packard Ltd

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

Subclause 96.9.1 'General Safety' states that 'All equipment subject to this clause shall conform to IEC 60950-1 (for IT and motor vehicle applications) ...' and '... to ISO 26262 (for motor vehicle applications only, if required by the given application).'. While PICS item ES1 has covered the requirement to conform to IEC 60950-1 is all cases, there is no PICS item to cover the requirement to conform to ISO 26262 in motor vehicle applications, if required.

SuggestedRemedy

[1] Add a new option to cover the requirement that conformance to ISO 26262 is only if required by the given application.

Item: ES2 (renumbering of following items required)
Feature: Application requires conformance to ISO 26262
Subclause: 96.9.1
Value/Comment:
Status: O
Support:

Yes [ ]
N/A [ ]

[2] Add a new item as follows to cover the conditional shall.

Item: ES3 (renumbering of following items required)
Feature: Conformance to ISO 26262.
Subclause: 96.9.1
Value/Comment:
Status: AUTO*ES2:M
Support:

Yes [ ]
N/A [ ]

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.5** *P* **100** *L* **19** # r01-32

Law, David Hewlett-Packard Ltd

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

Subclause 96.9.1 'General Safety' states that 'All equipment subject to this clause shall conform to IEC 60950-1' yet the 'feature' field of PICS item ES1 reads 'Conformance to applicable sections of IEC 60950-1'.

SuggestedRemedy

Suggest that 'Conformance to applicable sections of IEC 60950-1' be changed to read ' Conformance to IEC 60950-1'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.5** *P* **100** *L* **39** # r01-33

Law, David Hewlett-Packard Ltd

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

PICS Item ES5 is missing text in its 'Status' and 'Support' fields.

SuggestedRemedy

Add 'M' to the 'Status' filed and 'Yes [ ]' to the 'Support' field.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.5** *P* **100** *L* **37** # r01-34

Law, David Hewlett-Packard Ltd

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

96.9.2.2 'Electromagnetic Compatibility' states that 'A system integrating the 100BASE-T1 PHY shall comply with all applicable local and national codes, or as agreed to between the customer and the supplier, for the limitation of electromagnetic interference.'. Based on this suggest that the PICS item ES4 has its 'Feature' field updated to reflect the option of an agreement between the customer and the supplier.

SuggestedRemedy

Change the text '... limitation of electromagnetic interference' to read '... limitation of electromagnetic interference, or as agreed to between the customer and the supplier'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.5** *P* **100** *L* **50** # r01-35

Law, David Hewlett-Packard Ltd

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

There are three 'shall' statements in subclause 96.10 'Delay constraints' that appear to be missing PICS entries that apply to them.

SuggestedRemedy

Add if required.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.9.2.2** *P* **89** *L* **28** # r01-36

Law, David Hewlett-Packard Ltd

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

Subclause 96.9.2.2 'Electromagnetic Compatibility' states that 'A 100BASE-T1 PHY shall be tested according to IEC CISPR 25 test methods defined to measure the PHY's EMC performance in terms of RF immunity and RF emissions.'. The following sentence in this subclause then states that 'When used in an automotive environment, a 100BASE-T1 PHY shall meet the following motor vehicle EMC requirements:' and then lists IEC CISPR 25 in item (a).

This seems to state that all 100BASE-T1 PHYs have to be tested using the IEC CISPR 25 test methods, but only 100BASE-T1 PHYs that are used in an automotive environment need to meet the limits of IEC CISPR 25, with no indication of any limits for non-automotive applications.

Further, since IEC CISPR 25 is 'Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers.' I don't think a requirement to be tested according to IEC CISPR 25 should be placed on all 100BASE-T applications, only where it is being used in an automotive application.

SuggestedRemedy

[1] Suggest the sentence 'A 100BASE-T1 PHY shall be tested according to IEC CISPR 25 test methods defined to measure the PHY's EMC performance in terms of RF immunity and RF emissions.' be deleted as the following sentence mandates meeting the requirements of IEC CISPR 25 which will include the test methods.

[2] Delete item ES5 from the PICS.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.9.2.2** *P* **89** *L* **25** # r01-37

Law, David Hewlett-Packard Ltd

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

Subclause 96.9.2.2 'Electromagnetic Compatibility' seems to be duplicative, but also contradictory, to subclause 96.5.1 'EMC tests'.

Subclause 96.9.2.2 'Electromagnetic Compatibility' states that 'A system integrating the 100BASE-T1 PHY shall comply with all applicable local and national codes, or as agreed to between the customer and the supplier, for the limitation of electromagnetic interference.' Subclause 96.5.1 'EMC tests' also states 'A system integrating the 100BASE-T1 PHY shall comply with applicable local and national codes.' however states 'In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference.'

Hence subclause 96.9.2.2 seems to permit the use of an alternative to applicable local and national codes if it is agreed between the customer and supplier yet subclause 96.5.1 doesn't, only noting that in addition more stringent requirements may be agreed between the customer and supplier. Further, Subclause 96.9.2.2 requires conformance to IEC CISPR 25, while subclause 96.5.1 seems to just note the existence of IEC CISPR 25.

SuggestedRemedy

Suggest that subclause 96.5.1 be merged in to subclause 96.9.2.2 as follows.

[1] In subclause 96.9.2.2 change ' A system integrating the 100BASE-T1 PHY shall comply with all applicable local and national codes, or as agreed to between the customer and the supplier, for the limitation of electromagnetic interference.' to read 'A system integrating the 100BASE-T1 PHY shall comply with applicable local and national codes. In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference.'.

[2] Delete subclause 96.5.1.

[3] Delete PICS item PME1.

[4] Ensure that PICS item ES4 is aligned to this new text since this change would overcome my other comment on ES4.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.7** *P* **99** *L* **45** # r01-38

Law, David Hewlett-Packard Ltd

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

There is one 'shall' statement in 96.8.2.2 'MDI mode conversion loss' and four in 96.8.3 'MDI fault tolerance' that appear to be missing PICS entries that apply to them.

SuggestedRemedy

Add if required.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.6** *P* **99** *L* **27** # r01-39

Law, David Hewlett-Packard Ltd

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

There is one 'shall' statement in 96.7.2 'Noise environment' that appear to be missing a PICS entry that applies to it.

SuggestedRemedy

Add if required.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.5** *P* **98** *L* **30** # r01-40

Law, David Hewlett-Packard Ltd

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

There is one 'shall' statement in 96.6 'Management interface' and two in 96.6.1 'MASTER-SLAVE configuration' that appear to be missing PICS entries that apply to them.

SuggestedRemedy

Add if required.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.5** *P* **98** *L* **30** # r01-41

Law, David Hewlett-Packard Ltd

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

There is one 'shall' statement in 96.5.6 'Transmitter peak differential output' that appear to be missing a PICS entry that applies to it.

SuggestedRemedy

Add if required.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.5** *P* **96** *L* **29** # r01-42

Law, David Hewlett-Packard Ltd

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

Subclause 96.5.3 'Test fixtures' states that 'The fixtures shown in Figure 96-31, Figure 96-32, and Figure 96-33, or their equivalents, are used in the stated respective tests for measuring the transmitter specifications.' however the 'Feature' filed of PICS item PME12 uses a 'shall' in place of the 'are'.

SuggestedRemedy

If this is not a mandatory requirement, consider deleting the PICS item.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.11.4.2** *P* **92** *L* **54** # r01-43

Law, David Hewlett-Packard Ltd

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

There are three 'shall' statements in subclause 96.3.5.5 'PCS Receive MII signal 3B/4B conversion' that appear to be missing PICS entries that apply to them.

SuggestedRemedy

Add if required.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.9.2.1** *P* **89** *L* **10** # r01-44

Law, David Hewlett-Packard Ltd

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

Suggest the sentence 'The 100BASE-T1 PHY is designed to operate in the automotive environment' be moved to be a sentence under the subclause heading 96.9 'Environmental Specifications' as this statement is applicable to the whole of this section, this would also allow this to be used as the reference for the 'AUTO' major capability/option which currently has none.

SuggestedRemedy

[1] Move the text 'The 100BASE-T1 PHY is designed to operate in the automotive environment' from subclause 96.9.2.1 'Environmental Safety' to be the text for subclause 96.9 'Environmental Specifications'.

[2] In the Subclause field of the PICS item 'AUTO' add '96.9.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.9.1** *P* **88** *L* **54** # r01-45

Law, David Hewlett-Packard Ltd

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

Subclause 96.9.1 'General Safety' states that 'All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national motor vehicle standards or as agreed to between the customer and supplier.' While equipment in IT applications may well have to conform to applicable local, state, or national standards, they are unlikely to be local, state, or national motor vehicle standards.

SuggestedRemedy

Suggest the text '... to any applicable local, state, or national motor vehicle standards or as agreed ...' be changed to read '... to any applicable local, state, or national standards or as agreed ...'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.6.1** *P* **84** *L* **35** # r01-46

Law, David Hewlett-Packard Ltd

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

Suggest 'In case both ...' be changed to read 'In the case where both ...' and that '... or SLAVE ...' be changed to read '... or both to be SLAVE ...'.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.3** *P* **78** *L* **6** # r01-47

Law, David Hewlett-Packard Ltd

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

The text in the Balun '... impedance of 100 W' should read '... impedance of 100 Ohm(use symbol)'.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2.2** *P* **32** *L* **52** # r01-48

Law, David Hewlett-Packard Ltd

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

The second paragraph of subclause 96.1.2.2 'State Diagram Timer specifications' that starts 'The 100BASE-T1 PHY supports normal operation and link training operation ...' doesn't seem to relate to state diagram times, and instead to normal and training operation.

SuggestedRemedy

Suggest that this text be moved to the third paragraph of subclause 96.3.4.2 PCS 'Transmit state diagram'.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.7** *P* **24** *L* **36** # r01-49

Law, David Hewlett-Packard Ltd

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

In both IEEE Std 802.3-2012 and in IEEE 802.3bx the 'PMA/PMD control 2 register (Register 1.7)' is subclause 45.2.1.6.

SuggestedRemedy

Change 45.2.1.7 to read 45.2.1.6.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.1** *P* **31** *L* **40** # r01-50

Law, David Hewlett-Packard Ltd

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

I acknowledge that this comment is out of scope on this recirculation as it is on unchanged text, however in the first two paragraphs of this subclause, there different descriptions of the twisted-pair cabling supported by 100BASE-T1, 100BASE-TX and 1000BASE-T are used.

In respect to 100BASE-T1 the cabling is described as 'single balanced twisted-pair', in the case of 100BASE-TX the cabling is described as 'two pairs of a channel comprising unshielded copper cabling or better', in the case of 1000BASE-T the cabling is described as '4-pair balanced cabling system compliant with 40.7'.

Subclause 25.1 'Overview' of IEEE Std 802.3 states 'This clause specifies the 100BASE-X PMD (including MDI) and baseband medium for twisted-pair wiring, 100BASE-TX.' Based on this I'd suggest that a better description for 100BASE-TX would simply be 'two pairs of balanced twisted-pair'.

Subclause 40.1 'Overview' of IEEE Std 802.3 states ' The 1000BASE-T Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) and baseband medium specifications are intended for users who want 1000 Mb/s performance over Category 5 balanced twisted-pair cabling systems.'. Based on this I'd suggest a better description for 1000BASE-T would be 'four pairs of balanced twisted-pair'.

I also both paragraphs state that 100BASE-T1 operates over a single balanced twisted-pair channel which seems to be repetitively redundant.

SuggestedRemedy

Suggest the first two paragraphs be replaced with 'The 100BASE-T1 PHY operates using full-duplex communications (using echo cancellation) over a single balanced twisted-pair. In contrast, the IEEE 802.3 100BASE-TX PHY, specified in Clause 25, operates on two pairs of balanced twisted-pair cabling. Like the 100BASE-TX PHY, this PHY uses ternary signaling and interfaces to the Clause 22 MII. The 1000BASE-T PHY is specified in Clause 40, and it operates over four pairs of balanced twisted-pair cabling.'.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.7.1** *P* **61** *L* **6** # r01-51

Mcclellan, Brett Marvell Semiconducto

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

This sentence was added several drafts ago. "Note that when the PHY supports the optional EEE capability and signal_detect is FALSE, scr_status is set to NOT_OK." There is no other mention of support of EEE in the clause.

SuggestedRemedy

delete the sentence

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1** *P* **28** *L* **7** # r01-52

Law, David Hewlett-Packard Ltd

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

I acknowledge that this comment is out of scope on this recirculation as it is on unchanged text, however the introduction should also state how the optional management registers are accesses, in particular since it is not through the Clause 22 management interface.

SuggestedRemedy

The 100BASE-T1 Physical Layer supports standard media access controller (MAC) interfaces via the MII defined in Clause 22 with the exception of the MII Management interface defined 22.2.4. The 100BASE-T1 management functions are optionally accessible through the management interface defined in Clause 45.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.6** *P* **84** *L* **28** # r01-53

Law, David Hewlett-Packard Ltd

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

I acknowledge that this comment is out of scope on this recirculation as it is on unchanged text, however sucbaluse 96.6 'Management interface' states that '100BASE-T1 shall use the management interface as specified in Clause 45 and the PHY-Initialization which is described in the following section.'. It doesn't seem correct to mandate an embedded implementation to use the Clause 45 interface.

SuggestedRemedy

Suggest the first paragraph be replaced with '100BASE-T1 uses the management interface as specified in Clause 45. The Clause 45 MDIO electrical interface is optional. Where no physical embodiment of the MDIO exists, provision of an equivalent mechanism to access the registers is recommended.'.

Proposed Response *Response Status* **O**