Cl **96**   *SC* **96.2.1.1**   *P* **32**   *L* **26**   # 1
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
   Extra period at end of line..

SuggestedRemedy
   Use one.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.2.1**   *P* **41**   *L* **3**   # 2
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
   The contents of this subclause does not match its title.

SuggestedRemedy
   Change to an appropriate title or change the text in the paragraph to match the title.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.2.1**   *P* **41**   *L* **8**   # 3
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
   Although "Could be" is not addressed by the style manual, it is unusual. We typically use
   "is" or "may".

   Rephrase for clarity.

SuggestedRemedy
   Change

   "TX_CLK could be from local crystal or oscillator if it is in MASTER mode
   or from recovered clock if it is in SLAVE mode. The pcs_txclk could be derived from the
   same clock source as TX_CLK; however, with proper clock division factor to get to the
   required frequency."

   to

   "TX_CLK may be derived from a local crystal or oscillator in MASTER mode. It is derived
   from recovered clock in SLAVE mode. The pcs_txclk is derived from the same clock
   source as TX_CLK, with proper clock division factor to get to the required frequency."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.2.2**   *P* **41**   *L* **18**   # 4
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
   "could" should be "may" here.

SuggestedRemedy
   replace.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **4**   Page 1 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:23
SORT ORDER: Comment ID

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　*L* **22**　　# 5
Ran, Adee　　　　　　　　　　　Intel

Comment Type **ER**　　*Comment Status* **X**
Subclause shares its title with its parent (96.3.2).

SuggestedRemedy
Rename somehow, or restructure.

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　*L* **28**　　# 6
Ran, Adee　　　　　　　　　　　Intel

Comment Type **ER**　　*Comment Status* **X**
"An" appears in plain text here, but elsewhere it is italicized with "n" as a subscript. Be consistent.

SuggestedRemedy
Italicize and change n to subscript, three times in this paragraph and possibly elsewhere.

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　*L* **38**　　# 7
Ran, Adee　　　　　　　　　　　Intel

Comment Type **ER**　　*Comment Status* **X**
Describing behavior of other PHYs is not neccesary.

Unneeded normative statements (especially when referring to other clauses, but also here, as this whole subclause is normative).

SuggestedRemedy
Consider deleting the text

"Unlike 100BASE-TX or 1000BASE-T where symbols shall be exclusively assigned for TX_ER assertion occurrence, 100BASE-T1 only has one special symbol pair (0, 0) that is not used by Idle or Data symbols. Therefore, rather than insert ERROR symbols at the place TX_ER is asserted,"

If this text is not deleted, Change "shall be exclusively" to "are exclusively".

Change "shall be transmitted" to "are to be transmitted".

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3.1**　　　*P* **44**　　*L* **9**　　# 8
Ran, Adee　　　　　　　　　　　Intel

Comment Type **ER**　　*Comment Status* **X**
Refer to the specific subclause (96.3.2.4.5) here and in ESD2, ESD3.

SuggestedRemedy
Change 96.3.2 to 96.3.2.4.5.

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3.1**　　　*P* **44**　　*L* **18**　　# 9
Ran, Adee　　　　　　　　　　　Intel

Comment Type **ER**　　*Comment Status* **X**
Refer to the specific subclause (96.3.2.4.8)

SuggestedRemedy
Change 96.3.2 to 96.3.2.4.8.

Proposed Response　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **9**　　Page 2 of 117
05/01/2015 19:35:23

Cl **96**   *SC* **96.3.2.4.2**   *P* **47**   *L* **8**   # 10

Ran, Adee   Intel

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

"As such" is unsuitable here.

This paragraph also relates to the next subclause (generation of SC_n[2:0]). Only the next paragraph is specific to this subclause.

SuggestedRemedy

Delete "as such".

Consider merging this subclause with 96.3.2.4.3.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.6**   *P* **47**   *L* **11**   # 11

Ran, Adee   Intel

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

Rephrase paragraph for correctness.

The table is confusing. If the (0, 0) ternary pairs is not used in this mode, it should not appear in this table.

SuggestedRemedy

Change "The SSD/ESD ternary pairs are not used for training" to "The ternary pairs used to encode SSD and ESD are not used during training".

Delete the "used for SSD/ESD" line from the table.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.1**   *P* **51**   *L* **1**   # 12

Ran, Adee   Intel

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

Text in Figure 96-9 is unreadable even on a large monitor.

SuggestedRemedy

Enlarge font and re-layout diagram if necessary.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.10**   *P* **50**   *L* **22**   # 13

Ran, Adee   Intel

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

"2-D ternary pair" is repetitive. This thing is defined as a "code-group", or alternatively it is a pair of ternary symbols.

This applies to 96.3.3.1.2 too.

SuggestedRemedy

Change "2-D ternary pair" here to "code-groups".

Change "2-D ternary symbols" to "code-groups" three times in the definition of check_idle (96.3.3.1.2)

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **13**

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05/01/2015 19:35:24

Cl **99**　　*SC* **Participants**　　　*P* **7**　　　*L* **13**　　# 19
Ran, Adee　　　　　　　　　　Intel

Comment Type　**ER**　　*Comment Status*　**X**
Task force has a name.

SuggestedRemedy
Change "IEEE P802.3bw Task Force name" to "IEEE P802.3bw 100BASE-T1", 3 times.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3**　　　*P* **42**　　　*L* **2**　　# 20
Ran, Adee　　　　　　　　　　Intel

Comment Type　**T**　　*Comment Status*　**X**
Is tranining a stage (as used here), a mode (as in the previous page) or an operation (page 31)?

The receiver side can use its own transmitted symbols for echo cancellation; but it seems that in this context it should use the received signal, rather than the transmitted symbols from the partner (to which it doesn't have direct access).

Also, "open the eye" is inappropriate here; the "eye" is unobservable inside this kind of receiver.

Overall, shis subclause should describe the transmitter, not the receiver.

SuggestedRemedy
Change

"At training or retraining stage when PHY is in SEND_I mode, transmitted symbols are used at receiver side to acquire timing synchronization and open the eye for link up"

to

"During training operation (when tx_mode is SEND_I), knowledge of the transmitted symbols may be used at receiver side to perform any signal conditioning neccesary for meeting the required performance during normal operation".

Alternatively, delete this sentence altogether.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.1.1**　　　*P* **52**　　　*L* **48**　　# 21
Ran, Adee　　　　　　　　　　Intel

Comment Type　**T**　　*Comment Status*　**X**
What are the possible values of this parameter and their meanings?

Applies to most of the variables in this list as well.

SuggestedRemedy
List possible values and meaning of each variable.

Proposed Response　　　*Response Status*　**O**

Cl **00**　　*SC* **0**　　　*P* **1**　　　*L* **55**　　# 22
Ran, Adee　　　　　　　　　　Intel

Comment Type　**T**　　*Comment Status*　**X**
Page numbers labels are in roman numerals in the front matter, but are numeric in the main body. Also, there is a mismatch between the actual page number and the labels on the pages. This makes the numbering ambiguous and impedes with comment recording.

All my comments use the actual page numbers as shown by the PDF reader.

SuggestedRemedy
Preferably, consecutive roman numerals everywhere in the draft.

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general　　　　　*Comment ID* **22**　　Page 5 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn　　05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **01**   *SC* **1.4**   *P* **16**   *L* **53**   # 23
Ran, Adee   Intel

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

The new text is inconsistent with previous descriptions of ESD. code-group was earlier defined as two ternary symbols, but ESD has six, so is not "a code-group".

And small numbers in the text should be spelled out.

SuggestedRemedy

Change

"For 100BASE-T1, this delineates data transmission from idle. ESD consists of the code-group of 3 consecutive ternary pairs named as ESD1-3 as defined in 96.3.2.3"

to

"For 100BASE-T1, the ESD consists of three code-groups as defined in 96.3.2.4.5."

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4**   *P* **17**   *L* **42**   # 24
Ran, Adee   Intel

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

The new text is inconsistent with previous descriptions of SSD. See similar comment about ESD.

SuggestedRemedy

Change

"For 100BASE-T1, a code-group pattern between two distinct data transmissions onto MDI. SSD consists of the code-group of 3 consecutive ternary pairs named as SSD1-3 as defined in 96.3."

to

"For 100BASE-T1, the SSD consists of three code-groups, as defined in 96.3.2.4.5."

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.6**   *P* **24**   *L* **53**   # 25
Ran, Adee   Intel

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

The value "0 1 1 1 0 0" is taken by 10GBASE-PR-D4 (as of the published 802.3bj).

SuggestedRemedy

Choose an avaialble encoding for 100BASE-T1.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001**   *P* **26**   *L* **34**   # 26
Ran, Adee   Intel

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

"0 0 1 x" and "0 0 0 1" are not defined.

SuggestedRemedy

Add them as "reserved".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2.3**   *P* **30**   *L* **17**   # 27
Ran, Adee   Intel

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

There is only one wire pair

SuggestedRemedy

Change "each" to "the", delete underlines

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **27**

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05/01/2015 19:35:24

Cl **96**   *SC* **96.3**   *P* **38**   *L* **33**   # 28
Ran, Adee   Intel

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

Several issues with this paragraph:

Rate unit should be Baud, not Hz.

"ternary symbol pair" has a defined term "code-group" in the definitions (subclause 1.4).

Code groups are not multiplexed with anything, just serialized. The result is a stream of ternary symbols, not "1-D 3 level coding", sent to the PMA.

Figure 96-3 includes "PCS transmit enable", and doesn't include "PCS Reset".

Sentences should be reordered for clarity.

SuggestedRemedy

Change "converts the stream of 4-bits at 25 MHz to a stream of 3-bits at 33.333 MHz" to "converts the stream of 4-bit words at 25 MBd to a stream of 3-bit words at 33.333 MBd".

Change "stream of ternary symbols pairs" to "Stream of code-groups". Optionally, add "(pairs of ternary symbols)" since this is the first time the term appears.

Change

"These ternary symbol pairs are then multiplexed to a serialized stream of symbols at 66.666 MHz. As shown in Figure 96-3, the PCS operating functions are PCS Reset, PCS Transmit, and PCS Receive. PCS passes the 1-D 3 level (+1, 0, -1) coding to the PMA to convert to electrical signaling."

to

"These code-groups are then serilized to a stream of ternary symbols at 66.666 MBd, which are sent to the PMA. As shown in Figure 96-3, the PCS operating functions are PCS Transmit Control, PCS Transmit, and PCS Receive."

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.3**   *P* **38**   *L* **38**   # 29
Ran, Adee   Intel

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

The previous paragraph describes the functions in the transmit direction. The functions on the receive direction are missing.

SuggestedRemedy

Either add a matching paragraph for the receive direction, or move the previous paragraph to the PCS transmit subclause, 96.3.2.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.3.2.3**   *P* **41**   *L* **33**   # 30
Ran, Adee   Intel

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

PAM3 is a modulation scheme, not an encoding technique.

The actual modulation scheme (how symbol values relate to voltage levels) doesn't seem to be specified anywhere.

SuggestedRemedy

Change "tx_data[2:0] is encoded using PAM3 technique into a vector of ternary symbols" to "tx_data[2:0] is encoded into ternary symbols as specified in 96.3.2.4, and these terrnary symbosl are converted to an analog signal using a PAM3 modulation scheme (see 96.x.y.z)".

Add a modulation scheme specification subclause.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.3.3.1.1**   *P* **52**   *L* **45**   # 31
Ran, Adee   Intel

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

INVALID is assigned into rx_data[2:0] in Figure 96-9. How can "any random three-bit output" be identified as invalid? there should either be an unique identifiable code, or a separate variable should flag invalid data.

SuggestedRemedy

A variable to flag the indalid data is suggested.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **31**   Page 7 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

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Cl **96**　　*SC* **96.3.3.1.2**　　　　*P* **53**　　　*L* **50**　　　# 32
Ran, Adee　　　　　　　　　　　Intel

Comment Type　**TR**　　*Comment Status*　**X**
Where are the decoding rules outlined? Sould be 96.3.3.2, but nothing is really outlined there.

SuggestedRemedy
Point to 96.3.3.2, and write the decoding rules clearly there.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.1.3**　　　　*P* **54**　　　*L* **4**　　　# 33
Ran, Adee　　　　　　　　　　　Intel

Comment Type　**TR**　　*Comment Status*　**X**
Is "K" a thousand, or 1024? This an unusual style.

Timers are usually specified in time units, otherwise they are counters.

SuggestedRemedy
Use plain numbers.

Preferably, define the appropriate period explicitly.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.2**　　　　*P* **54**　　　*L* **18**　　　# 34
Ran, Adee　　　　　　　　　　　Intel

Comment Type　**TR**　　*Comment Status*　**X**
This is a normative statement, but the requirement is unclear.

SuggestedRemedy
Either delete "shall" or clarify what it is that the receiver must do.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.4**　　　　*P* **54**　　　*L* **33**　　　# 35
Ran, Adee　　　　　　　　　　　Intel

Comment Type　**TR**　　*Comment Status*　**X**
incorrect cross reference text.

SuggestedRemedy
Change "dle Idle symbol mapping in training" to "table 96-1".

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.4**　　　　*P* **55**　　　*L* **7**　　　# 36
Ran, Adee　　　　　　　　　　　Intel

Comment Type　**TR**　　*Comment Status*　**X**
rx_data stream is theoretically infinite. Does this refer to the number of bits in a frame?

SuggestedRemedy
Clarify.

Proposed Response　　　*Response Status*　**O**

Cl **01**　　*SC* **1.4**　　　　*P* **16**　　　*L* **23**　　　# 37
Ran, Adee　　　　　　　　　　　Intel

Comment Type　**TR**　　*Comment Status*　**X**
"set of ternary PAM3" is unclear and redundant. Sets are unordered, the symbols are ternary, and PAM3 is the electrical modulation. This seems to mean "a pair of ternary symbols", which would be consistent with previously discussed PHYs.

Also, "(out of 9 possible combinations)" is confusing and unnecessary in this context.

SuggestedRemedy
Change "set of ternary PAM3 symbols" to "pair of ternary symbols".

Delete (out of 9 possible combinations).

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **37**　　Page 8 of 117
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Cl **01**   *SC* **1.4**   *P* **18**   *L* **17**   *#* 38
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
"ohm" and "Ohm" used interchangably in the draft. Should use the Omega symbol.

SuggestedRemedy
Replace here and throughout.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4**   *P* **18**   *L* **18**   *#* 39
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
Seems that "are" should be either "as" or "which are"

SuggestedRemedy
Please correct the sentence

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.5**   *P* **18**   *L* **39**   *#* 40
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
template text. no abbreviations to insert yet.

SuggestedRemedy
Delete subclause 1.5 and the template text.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1**   *P* **29**   *L* **7**   *#* 41
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
100 Mb/s appears repeatedly.

Redundant "type" and unabbreviated sublayer names which are well known.

Both "PHY" and "Physical layer" - double definition.

SuggestedRemedy
Change

"This clause defines the 100BASE-T1 PHY type, operating at 100 Mb/s, Physical Coding Sublayer and type Physical Media Attachment sublayer"

to

"This clause defines the type 100BASE-T1 PCS and type 100BASE-T1 PMA sublayers".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.1**   *P* **29**   *L* **19**   *#* 42
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
This is not the full set of objectives.

Also, in objective a (as listed here), "or better" does not appear in the task force objectives. There are no class or reach listed here, so better than what?

SuggestedRemedy
Bring in the full and correct objectives list, or alternatively remove this subclause.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **42**   Page 9 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **96**   *SC* **96.1.2**   *P* **29**   *L* **27**   # 43
Ran, Adee   Intel

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

The other PHYs referenced here are parts of the same standard (802.3), not "other standards", so they are inappropriate here.

compare with 40.1.2 .

This subclause does not appear in recent clauses. See for example clause 80 which has "80.1.3 Relationship of 40 Gigabit and 100 Gigabit Ethernet to the ISO OSI reference model".

Associated clauses can be put in a table, see for example Table 84-1.

The last paragraph of this subclause appears out of place, and is probably not needed.

SuggestedRemedy

Rewrite this subclause as a table like Table 84-1. Remove the last paragraph.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2.1**   *P* **30**   *L* **1**   # 44
Ran, Adee   Intel

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

Subclauses 96.1.2.1 to 96.1.2.3 do not seem to fit in the hierarchy under "relationship to other standards". It is not clear where they belong to.

SuggestedRemedy

Delete these subclauses, possibly move text to other subclauses when necessary.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **29**   *L* **30**   # 45
Ran, Adee   Intel

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

"channel" is ambiguous here. 40.7 uses the term "link segment" rather than "channel" and refers to a "4-pair Cat 5 balanced cabling system". Suggest being consistent with the terms.

SuggestedRemedy

Unless this text is deleted by another comment: change "four pairs of a channel" to "a 4-pair balanced cabling system" and "one pair channel" to "a single-pair balanced cable"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.2**   *P* **32**   *L* **14**   # 46
Ran, Adee   Intel

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

"FORCE mode" is not defined anywhere in this draft, and is not a generally regocgnizable term. Based on the description here and elsewhere, it is not a "mode" since there is no other way to operate.

The way to set the master/slave relatinoship seems to be by what is usually called "management". If this term is too speficit, an alternative is "external configuration".

This applies to several other places where "FORCE mode" appears.

SuggestedRemedy

change "is set by FORCE mode" to "is set by management".

Make similar changes throughout the draft as appropriate.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.2.2**   *P* **41**   *L* **16**   # 47
Ran, Adee   Intel

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

Although "packet" has a specific meaning in Ethernet, is a very generic term. I would suggest using "Ethernet packet" and adding an appropriate xref.

SuggestedRemedy

Change "when the number of bits of a packet is not multiple of three" to "when the number of bits of an Ethernet packet (see 3.1.1) is not multiple of three".

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **47**   Page 10 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.3.2.3**   *P* **41**   *L* **51**   # 48
Ran, Adee   Intel

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

A_n are multiple symbols (indexed by n).

"SSD" is an initialism and can only be read by spelling out the letters, so should be preceded by "an" (as in "an MDI").

SuggestedRemedy

Change "symbol A_n" to "symbols A_n".

Change "inserting a SSD" to "inserting an SSD".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3.1**   *P* **44**   *L* **2**   # 49
Ran, Adee   Intel

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

Unlike in clause 40, a variable named "DATA" does not seem to be used anywhere in this draft. It may be omitted.

If not omitted:

Many code-groups are possible as valid data, not just one; should be "a", not "the". Also, refer to the specific subclause (96.3.2.4.5).

SuggestedRemedy

Delete this variable definition, or rephrase if necessary.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.3**   *P* **47**   *L* **20**   # 50
Ran, Adee   Intel

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

Why separate Sc_n generation into two rules?

SuggestedRemedy

Merge into a single rule for generating Sc_n[2:0].

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.4**   *P* **47**   *L* **33**   # 51
Ran, Adee   Intel

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

n is a subscripts.

These are the scrambled bits, not scrambling bits.

SuggestedRemedy

Change title to "Generation of scrambled bits Sd_n[2:0]" (_n meaning subscript n).

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.5**   *P* **47**   *L* **1**   # 52
Ran, Adee   Intel

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

Title does not match content.

The first sentence of this subclause is general, but the next ones are where SSD and ESD encoding is defined - and they are not related to Sd_n.

SuggestedRemedy

Find a better title, or split this subclause into two, one general and one defining ESD and SSD.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.6**   *P* **47**   *L* **8**   # 53
Ran, Adee   Intel

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

This subclause and the 3 following it should be in a lower hierarchy under 96.3.2.4.5.

SuggestedRemedy

Move in hierarchy.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **53**   Page 11 of 117
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Cl **96**　　　*SC* **96.3.3**　　　　　　*P* **50**　　　*L* **26**　　　# `54`
Ran, Adee　　　　　　　　　　　　Intel

Comment Type　**E**　　　*Comment Status*　**X**
　　Should this subclause title include "function" as in 96.3.2?

SuggestedRemedy
　　Change title to "PCS Receive function".

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.3.3.1.1**　　　　*P* **53**　　　*L* **24**　　　# `55`
Ran, Adee　　　　　　　　　　　　Intel

Comment Type　**E**　　　*Comment Status*　**X**
　　This is a variable, it does not seem to be parameter of any primitive.

SuggestedRemedy
　　Change "Parameter" to "variable" or delete.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.3.3.4**　　　　　*P* **55**　　　*L* **9**　　　# `56`
Ran, Adee　　　　　　　　　　　　Intel

Comment Type　**E**　　　*Comment Status*　**X**
　　Normative statements do not seem necessary here.

SuggestedRemedy
　　Change first "shall be" to "are", and second to "is".

Proposed Response　　　*Response Status*　**O**

Cl **01**　　　*SC* **1.4**　　　　　　　*P* **16**　　　*L* **24**　　　# `57`
Ran, Adee　　　　　　　　　　　　Intel

Comment Type　**ER**　　　*Comment Status*　**X**
　　missing "that"

SuggestedRemedy
　　insert "that" after ", when representing data".

Proposed Response　　　*Response Status*　**O**

Cl **01**　　　*SC* **1.4**　　　　　　　*P* **17**　　　*L* **2**　　　# `58`
Ran, Adee　　　　　　　　　　　　Intel

Comment Type　**ER**　　　*Comment Status*　**X**
　　Newly inserted text should be underlined, deleted text should be struck out. Comment
　　applies to numerous places in clause 1.

SuggestedRemedy
　　Add "and" in strikeout before "Clause 40". Underline ", and Clause 96".

　　Apply elsewhere as necessary.

Proposed Response　　　*Response Status*　**O**

Cl **01**　　　*SC* **1.2**　　　　　　　*P* **17**　　　*L* **10**　　　# `59`
Ran, Adee　　　　　　　　　　　　Intel

Comment Type　**ER**　　　*Comment Status*　**X**
　　double "and"

SuggestedRemedy
　　Delete the second "and"

Proposed Response　　　*Response Status*　**O**

Cl **01**　　　*SC* **1.4**　　　　　　　*P* **18**　　　*L* **15**　　　# `60`
Ran, Adee　　　　　　　　　　　　Intel

Comment Type　**ER**　　　*Comment Status*　**X**
　　template text

SuggestedRemedy
　　Delete "name: definition uses Paragraph Tag D3,Definitions. (See Clause 96.)"

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **60**

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05/01/2015 19:35:24

Cl **01**   *SC* **1.4**   *P* **18**   *L* **32**   # 61
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
This whole paragraph, and especially the normative statement, is out of place in the definitions clause. The term is used as a subclause header and does not need a definition.

SuggestedRemedy
Delete the "PHY-Initialization" paragraph.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.5**   *P* **19**   *L* **1**   # 62
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
Notes for editors should not be included in the published draft.

Changes between versions probably won't be maintained, and can be deleted.

SuggestedRemedy
Delete content of page 5 and page 6.

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.3.2.1.2**   *P* **22**   *L* **11**   # 63
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
Instruction should be "Insert". Also applies in the following subclauses.

SuggestedRemedy
Change instructions to "insert after..." multiple times.

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.5.1.1.11**   *P* **22**   *L* **36**   # 64
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
Incorrect subclause number. Should be 30.5.1.1.4 to match title.

Also in line 38.

SuggestedRemedy
Change 11 to 4 twice.

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.5.1.1.11**   *P* **22**   *L* **43**   # 65
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
Missing cross-reference hotspot to figure 96-16.

Applies in multiple other places in the draft.

SuggestedRemedy
add xref, multiple places.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1**   *P* **24**   *L* **16**   # 66
Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **X**
Seems like incorrect subcluase numbers (inserted subclauses should have successive numbers or letters if they precede the first subclause).

Also, missing cross-references to these sucblauses (they don't have assocuated bookmarks).

SuggestedRemedy
renumebr subclauses if needed, add bookmarks and xrefs.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **66**   Page 13 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **45**   *SC* **45.2.1.1**   *P* **24**   *L* **24**   # 67

Ran, Adee   Intel

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

This is the control register, not the status register.

It is not clear what has changed in this register. The second "reserved" line was removed, but it does not appear in strikeout. Why was this change made?

SuggestedRemedy

If not change is made, remove the editing instruction (and this subclause).

Otherwise, show the change appropriately, and change "status" to "control" in the title.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2.3**   *P* **30**   *L* **23**   # 68

Ran, Adee   Intel

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

"delimiters" out of place, underline instead of dash

SuggestedRemedy

change

"Robust delimeters for Start-of_stream delimiter (SSD), End-of-Stream (ESD), and other control signals"

to

"Robust encoding for Start-of-Stream delimiter (SSD), End-of-Stream delimiter (ESD), and other control signals"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.2**   *P* **57**   *L* **18**   # 69

Ran, Adee   Intel

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

Style manual: "will" is deprecated, is only used in statements of fact.

SuggestedRemedy

Change "will set" to "sets".

Change "will source" to "derives", twice.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.3**   *P* **57**   *L* **34**   # 70

Ran, Adee   Intel

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

typo

SuggestedRemedy

change PMA_UNIDATA to PMA_UNITDATA.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **70**   Page 14 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **96** *SC* **96.4.3** *P* **57** *L* **39** *#* 71

Ran, Adee Intel

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

loc_rcv_status is a variable, not a primitive.

SCR_STATUS should be renamed to the primitive name PMA_SCRSTATUS.request.

Scrambler or descrambler?

Long sentences have awkward clause order. Rephrasing suggested.

SuggestedRemedy

Change

"This primitive conveys to the PCS Transmiter, PCS Receiver, PMA PHY Control function and Link Monitor the information on whether the status of the overall received link is ok or not. PMA_SCRSTATUS.request is generated by the PCS Receiver to communicate the status of the descrambler for the local PHY. It conveys the information on whether the scrambler has achieved synchronization or not to the PMA receive function."

to

"This variable conveys the information on whether the status of the overall received link is ok or not to the PCS Transmiter, PCS Receiver, PMA PHY Control function and Link Monitor. PMA_SCRSTATUS is generated by the PCS Receiver to communicate the status of the descrambler for the local PHY. It conveys the information on whether the descrambler has achieved synchronization or not to the PMA receive function."

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.3** *P* **58** *L* **7** *#* 72

Ran, Adee Intel

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

scr_status is not defined. Primitive is PMA_SCRSTATUS.request.

SuggestedRemedy

change scr_status to PMA_SCRSTATUS.request.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.4** *P* **58** *L* **21** *#* 73

Ran, Adee Intel

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

FORCE mode, undefined, used twice in the first two sentences. It doesn't clarify anything, and the text is more readable without it.

Also, "normal state" is elsewhere defined as a mode.

SuggestedRemedy

Delete "FORCE mode is used to achieve link acquisition between two 100BASE-T1 link partners. During FORCE mode,"

Change "in a normal state" to "in the normal mode".

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.7** *P* **61** *L* **11** *#* 74

Ran, Adee Intel

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

What does the link_control variable mean or do? help the reader.

"Set by default" to what value? why should that be mentioned for this variables and not for others?

SuggestedRemedy

Add a meaningful description.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.5** *P* **60** *L* **38** *#* 75

Ran, Adee Intel

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

FORCE mode is not defined anywhere. This paargraph doesn't seem to add any information.

SuggestedRemedy

Delete "FORCE mode is used to set link_control to ENABLE during the PHY initialization. In FORCE mode, Link Monitor State diagram supports the 100BASE-T1 PHY Control operation."

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **75** Page 15 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.4.7**   *P* **61**   *L* **20**   # 76
Ran, Adee   Intel

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

"link" can't be split to "receive link" and "transmit link" (see definition in 1.4.235).

loc_rcvr_status is related to the receive function.

Similarly for rem_rcvr_status.

SuggestedRemedy

Change "receive link" to "receive function" here and in line 31.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1.2**   *P* **62**   *L* **39**   # 77
Ran, Adee   Intel

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

Space before unit, and unit symbols should be Omega, in heading and text.

SuggestedRemedy

Change "150Ohm" to "150 {Omega sign}" twice.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1.3**   *P* **62**   *L* **45**   # 78
Ran, Adee   Intel

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

TX clock frequency is specified in 96.5.4.5, this is a duplicate in an odd hierarchy (EMC requirements).

SuggestedRemedy

Delete subclause 96.5.1.3.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1.1**   *P* **62**   *L* **37**   # 79
Ran, Adee   Intel

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

Immunity requirement is already normative from parent subclause, and this is not a test specification.

SuggestedRemedy

Change "shall be" to "is".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **27**   # 80
Ran, Adee   Intel

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

Why is this optional (unlike clause 40 equivalent)? What other specified way is there to test transmitter jitter in slave mode?

Why discuss the timing jitter requirement here? unnecessary even if optional.

SuggestedRemedy

Delete the first two sentences of this paragraph, up to and including "As an optional feature".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **43**   # 81
Ran, Adee   Intel

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

x2_n is not used by the symbol mapping in table 96-5 and needs not be defined.

Also, there is only one transmitter in this PHY.

SuggestedRemedy

Change "x0n, x1n, and x2n" to "x0n and x1n". Delete the equation that defines x2n.

Delete "The ternary symbol sequence shall be presented simultaneously to all transmitters."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **81**   Page 16 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.5.2**   *P* **64**   *L* **12**   # 82
Ran, Adee   Intel

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

"random" is an incomplete definition. Is there a requirement that the sequence is "random enough"?

The sequence of test mode 4 is pseudo-random - so, can test mode 4 be used for PSD mask testing as well? If it's not sufficiently random, define the randomness requirement, or preferably define a longer generating polynomial for this mode.

SuggestedRemedy

Delete test mode 5 and use test mode 4 for PSD mask testing.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.3**   *P* **65**   *L* **40**   # 83
Ran, Adee   Intel

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

in 100GBASE-T, test mode 3 was used to measure the transmitter jitter in slave mode, possibly while receiving data only on other lanes. In this PHY, indeed, there is only one pair so test mode 3 will be "contaminated" by the remote signal. I assume this is the reason for requiring the transmitter clock separately.

However, the unnecessary burden to PHY design of adding a separate clock output does not seem justified. Also, this may not be a representative signal (as required for the test modes) and the measurement meaning may become questionable.

Instead, the "contamination" by the remote signal may be removed by using more complex test fixtures (e.g. directional couplers), calibration, and/or post-processing or measured data. The exact methods may be left to the tester.

Note that jitter in slave mode (regardless of measurement method) requries a remote partner to be connected and active anyway.

SuggestedRemedy

Replace this paragraph with

"Transmitter jitter in slave mode is tested using test mode 3 while a compliant signal is transmitted from a link partner into the DUT. The link partner signal's effect should be minimized by calibrating the test conditions in order to yield clean jitter measurements."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.3**   *P* **65**   *L* **45**   # 84
Ran, Adee   Intel

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

V_d is not fully defined. Is it a sine wave?

Peak-to-peak is usually twice the amplitude.

Also, the test pattern generator has only the transmitter reference clock, not the test pattern.

SuggestedRemedy

Change

"The disturbing signal Vd, shall have amplitude of 5.4 volts peak-to-peak differential, and frequency given by one-sixth of the symbol rate synchronous with the test pattern"

to

"The disturbing signal Vd shall be a sine wave, synchronous with the transmit reference clock, with frequency given by one-sixth of the symbol rate and differential peak-to-peak voltage of 5.4 volts".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.4**   *P* **65**   *L* **54**   # 85
Ran, Adee   Intel

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

This statement is unclear. Should the PMA include AC coupling or should it operate with external AC coupling?

SuggestedRemedy

Change "The PMA shall operate with AC coupling to the MDI" to "The PMA shall include AC coupling to the MDI".

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **85**   Page 17 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.5.4**   *P* **66**   *L* **3**   # 86

Ran, Adee   Intel

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

Is there no specification for peak differential output voltage?

SuggestedRemedy

Add a subclause and specify minimum and maximum values.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.4.3**   *P* **68**   *L* **20**   # 87

Ran, Adee   Intel

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

50 ps is 3.3 mUI, unfiltered! for comparision, in 1000BASE-T (almost double the baud rate) the parallel specification is 1.4 ns (175 mUI) unfiltered and 0.3 ns (37.5 mUI) filtered.

While this jitter may be feasible in master mode, the real problem is that jitter in slave mode is very tight too (10 mUI). Meeting this requirement with a recovered clock may impose very specific design requirements, and doesn't seem necessary, in view of 1000BASE-T.

Is there a reason for such a tight jitter spec compared to 1000BASE-T?

Also, why use ps in master mode and UI in slave mode? be consistent.

SuggestedRemedy

Change master mode jitter to less than 0.01 UI unfiltered, and slave mode jitter to less than 0.1 UI unfiltered.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.4.4**   *P* **69**   *L* **18**   # 88

Ran, Adee   Intel

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

PSD units are dBm/Hz, even if spectrum analyzer measurements display values in dBm. This removes the need for measurement settings in the footnote.

Also, table format is different from other tables and text coincides with borders.

SuggestedRemedy

Specify PSD in dBm/Hz instead, in this table and in figure 96-22. Modify the values as necessary.

Format the table correctly.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.4.5**   *P* **70**   *L* **37**   # 89

Ran, Adee   Intel

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

Table has only one row (no other modes in this PHY).

Transmission rate units are Bauds, not Hz.

Comment also applies to RX frequency tolerance in 96.5.5.2.

SuggestedRemedy

Delete the table and specify the rate as 66.666 MBd within the text, here and in 96.5.5.2.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.5.1**   *P* **70**   *L* **49**   # 90

Ran, Adee   Intel

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

A normative statement is required here.

SuggestedRemedy

Change "are received" to "shall be received".

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **90**

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Cl **96**   *SC* **96.6**   *P* **71**   *L* **41**   *#* 91
Ran, Adee   Intel

Comment Type   **T**   *Comment Status* **X**
Is the management interface normative or optional?

SuggestedRemedy
Use "may" or "shall" as required.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.7**   *P* **72**   *L* **22**   *#* 92
Ran, Adee   Intel

Comment Type   **T**   *Comment Status* **X**
UTP isn't a synonym of "balanced cabling system", it is more specific. Is there an external specifiaction for the type of cable, like cat-5 in 1000BASE-T?

Link segment may have lower length and fewer connectors.

Also, space required before "m".

SuggestedRemedy
Change "one-pair balanced cabling system" to "one-pair UTP" or a more specific term if it exists.

Change "15m" to "up to 15 m" and "four inline connectors" to "up to four inline connectors" throughout this subclause.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.9**   *P* **75**   *L* **14**   *#* 93
Ran, Adee   Intel

Comment Type   **T**   *Comment Status* **X**
The "twisted pair" is not a specific point at which delay can be defined.

SuggestedRemedy
Change "twisted pair" to "MDI", twice.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **1**   *#* 94
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
Two "shall" statements for the test modes, but what is actually required?

"shall only change the data" - impossibly to verify since the characteristics are unuly measured in the test modes. Also, these are analog characteristics, and are typically dependent on the transmitted data in some way, so "shall not alter" is impossible to commit to.

"shall be enabled" seems to make a normative requirement on the _enabling_ of the test modes through a register (unspecified one). This is unusual (although the text is apparently iherited from another clause).

I assume that the implementation of test modes is the actual normative requirement.

SuggestedRemedy
Change this paragraph from

"These test modes shall only change the data symbols provided to the transmitter circuitry and not alter the electrical and jitter characteristics of the transmitter and receiver from those of normal operation. These modes shall be enabled by setting a 3-bit control register."

to

"The test modes for the 100BASE-T1 PHY described in Table 96–4 shall be provided. These test modes are controlled by <register or variable name>. The test modes should be implemented by changing the data symbols provided to the transmitter circuitry, to minimize changes to the electrical and jitter characteristics of the transmitter and receiver from those of normal operation."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **94**   Page 19 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **9**   # 95
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
The register that controls these test modes is unnamed and undefined. Should be linked with MDIO etc.

Also, table is badly formatted.

SuggestedRemedy
Add register name, address, etc.

Format table fonts and spacing as in other tables.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.3**   *P* **64**   *L* **18**   # 96
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
Why is "for data communication only" stated here?

Suggesting rephrasing this sentence for clarity.

SuggestedRemedy
Change

"The following fixtures, or their equivalents, as shown in Figure 96-17, Figure 96-18, and Figure 96-19, in stated respective tests, shall be used for measuring the transmitter specification for data communication only."

to

"The fixtures shown in Figure 96-17, Figure 96-18, and Figure 96-19, or their equivalents, shall be used in stated respective tests for measuring the transmitter specifications."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.3**   *P* **64**   *L* **20**   # 97
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
Unclear statement. What does "it" refer to? what does "specification compliant" mean in this context?

SuggestedRemedy
Change "it" to "the test fixtures".

Delete "as long as the measurements at MDI for all the defined tests are the100BASE-T1 PHY transmitter specification compliant".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.4.4**   *P* **69**   *L* **4**   # 98
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
There is no need to explain in this document why specifications that were used in a past standard are not used in this one. This should remain in presentations.

The definition of test mode 5 needs not be repeated here. The "random sequence" requirement is addresed in a separate comment.

SuggestedRemedy
Delete the first paragraph, from "When test mode 5" to "the same capability".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.5.3**   *P* **71**   *L* **31**   # 99
Ran, Adee   Intel

Comment Type   **E**   *Comment Status* **X**
BroadR-Reach

Should this be capitalized?

SuggestedRemedy
Change "BroadR-Reach 100Mbps COMPLIANT" to "100BASE-T1 COMPLIANT".

Delete the second instance of "BroadR-Reach".

Consider changing all-caps to normal case.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **99**   Page 20 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **96**   *SC* **96.6**   *P* **72**   *L* **1**   # 100
Ran, Adee   Intel

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

This subclause seems like an unnecessary repeat of the previous one, 96.6.1

SuggestedRemedy

Delete this subclause.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.7.1**   *P* **73**   *L* **1**   # 101
Ran, Adee   Intel

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

"Ensure" is absolute verbiage that should be avoided (style manual 10.2.5). Also, will is only used in statements of fact (10.2.2).

SuggestedRemedy

Change

"The transmission parameters contained in this specification ensure that a 1-pair UTP cable link segment will provide a reliable medium"

to

"The transmission parameters contained in this specification are chosen to enable reliable operation over a 1-pair UTP cable link segment".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.7.2**   *P* **74**   *L* **4**   # 102
Ran, Adee   Intel

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

Item a is unrelated to link segment characteristics. It contains normative statements about the PHY that are "up to each PHY implementer" - so are not really meaningful.

Item b states that the background noise due to thermal is negligible. If so, why mention it at all? there are numerous other negligible effects.

Item c relates to alien crosstalk and is practically an installation-related recommendation. It would be better to move this information to an annex (see 40A for an example).

Items c and d use the terms PSANEXT and PSAACRF which are not defined in this clause (the second is completely new in 802.3). These terms should have explicit definitions and abbreviations should be listed in clause 1.

Item d has a date string embedded in the text.

SuggestedRemedy

Delete items a and b.

Move item c to an annex. State as recommendations, not as normative text.

Define necessary terms and abbreviations appropriately.

Delete "6 November 2014".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2**   *P* **74**   *L* **45**   # 103
Ran, Adee   Intel

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

The cross reference links to subclause 96.7.1, which is not a table.

It seems that a mated pair of MDI connectors should have different electrical requirements than a full link segment (96.7.1) which contains two such pairs along with possible some additional connectors and cable.

Some requirements are listed in the following subclauses.

SuggestedRemedy

Create the table to summarize the mated pair characteristics and link to it.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **103**

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05/01/2015 19:35:24

Cl **96B**   *SC* **96B**   *P* **81**   *L* **6**   # 104
Ran, Adee   Intel

Comment Type **E**   *Comment Status* **X**
Test modes, even if optional, should be defined in the main clause, not in an annex.

SuggestedRemedy
Move these test modes to the appropriate place in clause 96 - most likely the PCS subclause for internal loopback and the PMA subclause for external loopback.

Define how these modes are enabled (e.g. MDIO registers).

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4**   *P* **55**   *L* **44**   # 105
Ran, Adee   Intel

Comment Type **T**   *Comment Status* **X**
Paragraph style needs improvement.

PMA works in both directions, data is both incoming and outgoing.

PAM3 usage is repeated twice, the second time looks like a definition.

Signaling is not just between MDI/PMA, it goes over the medium too.

Some electrical specification is embedded here, but there is a separate electrical subclause.

The sentence "The PMA sublayer functions apply to the use of single channel operation" doesn't really say anything.

SuggestedRemedy
Rewrite based on similar existing PMA clauses, for example 40.4.

Move any electrical specification (e.g. voltage levels) to 96.6.

Delete the sentence "The PMA sublayer functions apply to the use of single channel operation."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.3**   *P* **57**   *L* **33**   # 106
Ran, Adee   Intel

Comment Type **T**   *Comment Status* **X**
Signals aren't ternary, they are continuous.

SuggestedRemedy
Change "ternary PAM signals" to "PAM3 modulated signals"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.7**   *P* **61**   *L* **15**   # 107
Ran, Adee   Intel

Comment Type **T**   *Comment Status* **X**
Doesn't link_status convey the status of the link (not just the medium?) What if the medium is OK but link partner is powered down?

SuggestedRemedy
Change to a correct description.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.7**   *P* **61**   *L* **40**   # 108
Ran, Adee   Intel

Comment Type **T**   *Comment Status* **X**
Is EEE supported by this PHY? seems like an inheritance from another clause.

SuggestedRemedy
Delete "Note that when the PHY supports the optional EEE capability and signal_detect is FALSE, scr_status is set to NOT_OK."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **108**   Page 22 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.5.1**   *P* **62**   *L* **28**   # 109
Ran, Adee   Intel

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

"shall be able to meet" is unneccesarily open for interpretation. A normative statement is "shall meet".

SuggestedRemedy

Delete "be able to".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2.2**   *P* **61**   *L* **1**   # 110
Gardner, Andrew   Linear Technology Cor

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

The MDI RL lower corner frequency specification in 96.8.2.2 is burdensome for data line powered device applications because of the constraint it places on the coupling inductors. Increasing the 20dB RL lower corner frequency from 1MHz to 1.8MHz will reduce the required minimum coupling inductance from approx 40uH to approx 22uH with relatively minor impact on PHY performance. This reduction will allow the required current to be delivered to a data line powered device while still meeting application constraints for inductor volume, parasitic resistance (DCR), and self-resonant frequency (SRF).

SuggestedRemedy

For 100BASE-T1 data line powered devices, it is proposed that the MDI RL requirement be modified per below in order to ease the requirement on the coupling inductors. Clause 104 (802.3bu) should incorporate the modified MDI RL specification for data line powered devices, and the following informative note should be incorporated in Clause 96 after subclause 96.8.2.2 in order to direct the reader to Clause 104:
Note: Data line powered devices should refer to Clause 104 for the relevant MDI RL specification.

Corresponding paragraph in Clause 104:

104.TBD MDI Return Loss for 100BASE-T1 Data Line Powered Devices

The MDI return loss (RL) shall meet or exceed the following equation for all frequencies from DC to 66 MHz (with 100 ohm reference impedance) at all times when the PHY is transmitting data or control symbols.

Return Loss (dB): 20 x log(SQRT(1 + (2 x pi x f x (2 x 22 microH)/50 Ohm)^2)) for f = DC - 1.8 MHz
        20   for f = 1.8 - 30 MHz
        20 - 20 x log(f/30)   for f = 30 - 66 MHz

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4**   *P* **4**   *L* **14**   # 111
Grow, Robert   RMG Consulting

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

PDF page 18 - Format problems.

SuggestedRemedy

p.4, l,15, etc., The term is to be bold, not just the sub clause number. Fix for all inserted definitions.
p.4, l.16, Missing space after comma

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P* **8**   *L* **1**   # 112
Grow, Robert   RMG Consulting

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

Bank page viii

SuggestedRemedy

Remove.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.183**   *P* **3**   *L* **2**   # 113
Grow, Robert   RMG Consulting

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

PDF page 17 - Incorrect/incomplete change marking.

SuggestedRemedy

p.3, l. 2, moved and (not deleted and inserted as underscore), new clause not underscored.
p.3, l.10, double and (probably one moved rather than strikethrough and locate before Clause 82.
p.3, l.19, old and was deleted rather than strikethrough p.3, l.24, old and was deleted rather than strikethrough p.3, l.26, old and was deleted rather than strikethrough p.3, l.31, old or was deleted rather than strikethrough p.4, l.2, insert not underscore (and Clause 96) p.4, l.8, almost got it, the semicolon and space should be underscore

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **113**

Page 23 of 117
05/01/2015 19:35:24

Cl **30**   *SC*   *P* **8**   *L* **3**   # **114**
Grow, Robert   RMG Consulting

Comment Type   **E**   *Comment Status*   **X**
    PDF page 22 - Residual template instruction.

SuggestedRemedy
    Remove editing instruction that isn't an editing instruction but rather instruction on how to
    create a draft.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.1.2.3**   *P* **16**   *L* **17**   # **115**
Grow, Robert   RMG Consulting

Comment Type   **E**   *Comment Status*   **X**
    PDF page 30 - Legacy text that should have been edited? (Over each pair makes no
    sense when the PHY only uses one pair.)

SuggestedRemedy
    '__each wire pair__' with 'a wire pair'.

Proposed Response   *Response Status*   **O**

Cl **99**   *SC*   *P* **1**   *L* **49**   # **116**
Grow, Robert   RMG Consulting

Comment Type   **E**   *Comment Status*   **X**
    PDF page 15 - 802.3bk is not a parallel amendment project, it is an approved amendment.
    Certainly editing instructions should indicate the source for the text or reference for the
    instruction, and that would include approved amendments, but this note is primarily for
    allowing an editing instruction to point to text from another project yet to be approved.

SuggestedRemedy
    As 802.3bw is projected to be the next approved amendment, the only valid parallel project
    should be to the revision project P802.3bx and the word 'amendment' should be stricken
    from the next to last line and example changed.

Proposed Response   *Response Status*   **O**

Cl **99**   *SC*   *P* **2**   *L* **7**   # **117**
Grow, Robert   RMG Consulting

Comment Type   **E**   *Comment Status*   **X**
    PDF page 16 - Format error.

SuggestedRemedy
    References use a comma after the document number not a hyphen.

Proposed Response   *Response Status*   **O**

Cl **01**   *SC*   *P* **5**   *L* **1**   # **118**
Grow, Robert   RMG Consulting

Comment Type   **ER**   *Comment Status*   **X**
    PDF page 19 - This page does not belong in an ballot draft!

SuggestedRemedy
    Remove page 5-6, and probably blank page 7 (I don't remember nor have the time to
    check if each Change clause is to start on an odd or even numbered page).

Proposed Response   *Response Status*   **O**

Cl **01**   *SC* **1.4**   *P* **4**   *L* **20**   # **119**
Grow, Robert   RMG Consulting

Comment Type   **ER**   *Comment Status*   **X**
    PDF page 18 - You are perpetuating a violation of IEEE style, a capital B indicates byte,
    and lower case b indicates bit. This was violated for 8B/10B (should have been 8b/10b)
    with justification that the inventors used a capital B to describe their encoding. This
    continues to be a problem and shows up with B being ambiguous (64B/65B).

SuggestedRemedy
    Follow the style manual, the abbreviation for bit is lower case b.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **119**   Page 24 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **30**   *SC* **30.3.2.1.2**   *P* **8**   *L* **11**   # 120
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
PDF page 22 - This is not a change, it is an insert.

SuggestedRemedy
Editing instruction should be an insert with the insert point of the new line identified (e.g., Insert the following after xxxx). Check other approved amendments for lines they might have added to avoid ambiguity of insert point.
Similar correction on line 19, 30.3.2.1.3, and line 34, 30.5.1.1.2.

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.5.1.1.11**   *P* **8**   *L* **41**   # 121
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
PDF page 22 - This is not shown as a change, it is more like an insert.

SuggestedRemedy
Either include the rest of the current text for BEHAVIOUR and leave as a change or write as an insert and clearly indicate the insert point. The former is preferred as it is not too long. In either case, check approved amendments to look for any text they might have added.

Proposed Response   *Response Status* **O**

Cl **96**   *SC*   *P*   *L*   # 122
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
Many tables have a format problem. Most notable is row height cutting off text (Tables 96-4 96-5, 96-6, and unnumbered table in 96.5.4.5 and 96.5.5.2).

SuggestedRemedy
Assure all tables follow IEEE style for table heading, footnotes, and properly display all table text.

Proposed Response   *Response Status* **O**

Cl **96**   *SC*   *P*   *L*   # 123
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
I tried to indicate figures with specific problem in this clause.

It isn't clear what function color plays in clause 96 figures, especially for red and black text on transition lines of some of the figures. The style manual requires that color not be required to interpret figures.

Additionally font size in many of the figures appears to be much smaller than 12 point, has the figure been shrunk to fit thus decreasing displayed font size? This also happens with imported figures. Some (e.g., 96-17) appear to have been copied from some other drawing program or as bit maps. This is a maintenance headache. It is much better for all figures to be drawn in FrameMaker. Import also is a problem for import of bad style conventions (Figure 96-23 labels a resistor 500O, has a footnote that does not follow IEEE style).

There is no need to include product names (Figures 96-15, 96-23). BroadR-Reach is a

SuggestedRemedy
Replace all (or almost all) imported figures with drawings made in FrameMaker. In redrawing correct the problems noted in comment.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **15**   *L* **27**   # 124
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
PDF page 29 -The title of the sub clause does not agree with the content of the sub clause. All that is discussed is other parts of IEEE 802.3, not other standards. That title in other PHY subclauses typically is referring to the architectural diagram that this draft does not include (e.g., standards specifying the ISO OSI Reference model).

SuggestedRemedy
Change title to 100BASE-T1 architecture.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **124**   Page 25 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **96**   *SC* **96.1.2**   *P* **15**   *L* **30**   # 125
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
    PDF page 29 - 1000BASE=T isn't the only gigabit PHY.

SuggestedRemedy
    Delete 'or gigabit'.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **15**   *L* **34**   # 126
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
    PDF page 29 - An architecture doesn't interface to anything. (The architecture includes an MII interface. The specifications to that architecture assume there is an MII. Specifically, the RS is specified as communicating to lower sublayers via an MII, and the PCS is specified as being at the other side of that MII.) But the MII is an optional interface. I doubt this one change will cover the number of statements that imply an MII is mandatory, but it is a start.

SuggestedRemedy
    The 100BASE-T1 PHY specifications are written assuming an optional Clause 22 MII. Conformant 100BASE-T1 PHY operation is indistinguishable at the MDI independent of the implementation of an MII.

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P* **4**   *L* **1**   # 127
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
    page iv - The draft front matter does not follow the IEEE-SA Style Manual

SuggestedRemedy
    Correct order of components of front matter.

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P* **1**   *L* **1**   # 128
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
    PDF page 11 - For some reason, page numbering restarts here rather than continuous numbering of front matter.

SuggestedRemedy
    Use continuous page numbering for front matter.

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P* **4**   *L* **3**   # 129
Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **X**
    page iv - The note unfortunately is not correct. The D1.2 draft uses publication page numbering, not our consistent Arabic page numbers for balloting.

SuggestedRemedy
    Please follow 802.3 balloting convention for numbering with future drafts.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **129**   Page 26 of 117
05/01/2015 19:35:24

Cl **00** *SC* **0** *P* **10** *L* **1** # 130
Grow, Robert RMG Consulting

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

PDF page 24 - This draft includes management in clause 45 registers. This is the only PHY at speeds of 100 Mb/s or 1000 Mb/s to do so. All previous PHYs use clause 22 registers. Mixing management between the two different register spaces is a bad idea. It also specifies use of the MII as specified in Clause 22. The MII includes the management interface (22.1.1,c), a requirement to report rate of operation via that management interface (22.1.3), a requirement to implement the basic register set (22.2.4, para. 3), etc.

The Clause 22 MII specifications also include text (often requirements) that need to be reviewed as part of this project (as well as for 1000BASE-T1 and GEPOF) needs to review Clause 22 for any text that would contradict the specifications of P802.3bw. To move management to Clause 45 for this PHY would require opening Clause 22 and making significant edits. (1000BASE-T1 and GEPOF will have to do the same for both Clause 22 and Clause 35.)

It is important that all three projects review the tradeoffs for management and be consistent in editing legacy clauses. There is a strong case for all three projects taking a similar technical approach to use of these legacy interfaces not carefully examined probably since 1000BASE-T.

SuggestedRemedy

All register definitions need to be written for Clause 22. Text still needs to be examined since it is likely the extended register set will need to be used, and current text assumes only gigabit PHYs will use the extended register set.

Proposed Response *Response Status* **O**

Cl **99** *SC* *P* **5** *L* **27** # 131
Grow, Robert RMG Consulting

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

page v - Front matter should reflect the plan for the amendment. It is not correct for either amending 802.3-2012, or 802.3-20xx

SuggestedRemedy

In either case, it is customary to add a description of the amendment (i.e., description of IEEE Std 802.3bw) so that balloters agree on the text to appear in front matter of subsequent amendments. If planned as an amendment to 802.3-2012, then the list of descriptions is incomplete, it should include 802.3bj and 802.3bm in addition to the description of 802.3bw.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **4** *L* **32** # 132
Grow, Robert RMG Consulting

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

PDF page 18 - Definitions are not the place for normative requirements.

SuggestedRemedy

Rewrite to remove the shall and assure the normative requirement is in clause 96.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.5** *P* **4** *L* **39** # 133
Grow, Robert RMG Consulting

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

PDF page 18 - I doubt the expansion of ABBR is 'expanded version'.

SuggestedRemedy

Put in correct expansion.
Also delete the style reminder in line 41 or put into an Editor's Note.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.10** *P* **76** *L* **1** # 134
Grow, Robert RMG Consulting

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

PDF page 76 - The absence of the PICS shows that the draft is not technically complete.

SuggestedRemedy

Complete the PICS.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.x** *P* **18** *L* **16** # 135
Booth, Brad Microsoft

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

Definition of "name" seems to be remnant of original base text.

SuggestedRemedy

Remove 1.4.x name.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **135**

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05/01/2015 19:35:24

Cl **01**   *SC* **1.5**   *P* **18**   *L* **35**   # 136
Booth, Brad   Microsoft

Comment Type   **ER**   *Comment Status* **X**
   No abbreviations are being used.

SuggestedRemedy
   Delete 1.5.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1**   *P* **19**   *L* **1**   # 137
Booth, Brad   Microsoft

Comment Type   **ER**   *Comment Status* **X**
   Notes for editors should be removed from the working group ballot draft.

SuggestedRemedy
   Delete pages associated with Notes for editors.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.1**   *P* **29**   *L* **21**   # 138
Booth, Brad   Microsoft

Comment Type   **ER**   *Comment Status* **X**
   The (UTP) shown in bullet a is not the first instance of the use of UTP.

SuggestedRemedy
   In 96.1, spell out the first use of UTP and note the acronym:
   ... over one pair of unshielded twisted pair (UTP) cable.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.377**   *P* **17**   *L* **42**   # 139
Booth, Brad   Microsoft

Comment Type   **T**   *Comment Status* **X**
   Added text doesn't read correctly. The new sentence reads as though 100BASE-T1 is
   overriding the 802.3 definition at the start of the definition.

SuggestedRemedy
   Change to read:
   For 100BASE-T1, the SSD is indicated by three consecutive ternary pairs as defined in
   96.3.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.183**   *P* **17**   *L* **1**   # 140
Booth, Brad   Microsoft

Comment Type   **TR**   *Comment Status* **X**
   Added text doesn't read correctly. The overlying 802.3 definition of ESD is that it is a code-
   group used to terminate a normal data transmission. The new sentence reads as though
   100BASE-T1 is overriding that definition.

SuggestedRemedy
   Change the sentence to read:
   For 100BASE-T1, the ESD is indicated by three consecutive ternary pairs as defined in
   96.3.2.3.

   Removed the naming of the ternary pairs to simplify.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **18**   *L* **29**   # 141
Booth, Brad   Microsoft

Comment Type   **TR**   *Comment Status* **X**
   This definition seems to be in the wrong place; especially considering there is a shall
   statement in the defintion.

SuggestedRemedy
   Remove definition and move text to 96.6.2.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **141**   Page 28 of 117
05/01/2015 19:35:24

Cl **45**　　　*SC* **45.2.1.1**　　　　　*P* **24**　　　*L* **35**　　　　*#* 142
Booth, Brad　　　　　　　　　　　　　Microsoft

Comment Type　**TR**　　　*Comment Status*　**X**
　Missing information. x1xx = Reserved was removed but draft doesn't show what was added.

SuggestedRemedy
　Add correct information and register bit definition.

Proposed Response　　　　*Response Status*　**O**

Cl **45**　　　*SC* **45.2.1.6**　　　　　*P* **24**　　　*L* **52**　　　　*#* 143
Booth, Brad　　　　　　　　　　　　　Microsoft

Comment Type　**TR**　　　*Comment Status*　**X**
　This edit only shows a small portion of the table and doesn't give reference to its placement relative to the other ports.

　Also missing the bit definition.

SuggestedRemedy
　Show the full listing so one can visually understand its placement relative to the other port names.

　Add the register bit definition.

Proposed Response　　　　*Response Status*　**O**

Cl **45**　　　*SC* **45.2.1.10**　　　　*P* **26**　　　*L* **14**　　　　*#* 144
Booth, Brad　　　　　　　　　　　　　Microsoft

Comment Type　**TR**　　　*Comment Status*　**X**
　Missing register bit definition.

SuggestedRemedy
　Add register bit definition:
　When read as a one, bit 1.11.11 indicates that the PMA/PMD is able to operate as a 100BASE-T1 PMA/PMD type. When read as a zero, bit 1.11.11 indicates that the PMA/PMD is not able to operate as a 100BASE-T1 PMA/PMD type.

Proposed Response　　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.1**　　　　　*P* **29**　　　*L* **1**　　　　*#* 145
Booth, Brad　　　　　　　　　　　　　Microsoft

Comment Type　**TR**　　　*Comment Status*　**X**
　This draft should be sent back to task force ballot as the format of the draft does not comply with the IEEE style guidelines. While there are no TBDs in the draft, the draft is missing information in Clause 45 and is not of the quality the working group normally sees when a draft enters working group ballot.

SuggestedRemedy
　The task force needs to bring this draft up to the quality that should normally be seen by the working group at this phase of the project.

Proposed Response　　　　*Response Status*　**O**

Cl **01**　　　*SC* **1.4.142**　　　　*P* **16**　　　*L* **23**　　　　*#* 146
Booth, Brad　　　　　　　　　　　　　Microsoft

Comment Type　**E**　　　*Comment Status*　**X**
　Uppercase A

SuggestedRemedy
　Change the uppercase A in "For 100BASE-T1, A set..." to lowercase.

Proposed Response　　　　*Response Status*　**O**

Cl **01**　　　*SC* **1.4.x**　　　　　*P* **18**　　　*L* **18**　　　　*#* 147
Booth, Brad　　　　　　　　　　　　　Microsoft

Comment Type　**E**　　　*Comment Status*　**X**
　Use wording that matches what exists in 802.3.

SuggestedRemedy
　Change to read:
　4B3B: For IEEE 802.3, the data encoding technique used by 100BASE-T1 when...

Proposed Response　　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **147**

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05/01/2015 19:35:24

Cl **01** *SC* **1.4.142** *P* **16** *L* **25** # 148
Booth, Brad Microsoft

Comment Type **ER** *Comment Status* **X**
Editing is not following the guidelines listed on page 15.

SuggestedRemedy
In 1.4.142, there is no strikethrough of the "and" in front of Clause 40 at end of definition.
In 1.4.157, 1.4.163 and 1.4.183, missing "IEEE Std 802.3," at end of definition.
In 1.4.183, there is no strikethrough of the "and" in front of Clause 40 and no underscore of ", and Clause 96" at end of definition.
In 1.4.313, there is no strikethrough of the "and" in front of Clause 82, and there is an extra "and" at end of definition.
In 1.4.314, there is no strikethrough of the "and" in front of Clauses 82 to 89 at end of definition.
In 1.4.315, the text in the parathesis at the end of the definition does not match 802.3-2012 or show the edits correctly.
In 1.4.340, no strikethrough of "and" between 100BASE-T2 and 1000BASE-T, and no underscore under the inserted comma.
In 1.4.350, no strikethrough of "or" between 100BASE-T2 and 1000BASE-T, and no underscore under the inserted comma. The text at the end of the definition does not match that in 802.3-2012.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.381** *P* **18** *L* **2** # 149
Booth, Brad Microsoft

Comment Type **ER** *Comment Status* **X**
Missing a comma and underscore.

SuggestedRemedy
Insert a comma after 100BASE-T1. Underscore "and Clause 96".

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.382** *P* **18** *L* **8** # 150
Booth, Brad Microsoft

Comment Type **ER** *Comment Status* **X**
Underscore missing.

SuggestedRemedy
The semi-colon and space after "125 MBd" and before "for 100BASE-T1" should have an underscore.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.385** *P* **18** *L* **11** # 151
Booth, Brad Microsoft

Comment Type **ER** *Comment Status* **X**
Missing information.

SuggestedRemedy
Missing "IEEE Std 802.3" in the information inside the paranthesis.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **2** *L* **23** # 152
Amason, Dale Freescale

Comment Type **E** *Comment Status* **X**
Use lower case "a" in phrase "For 100BASE-T1, A set of"

SuggestedRemedy
For 100BASE-T1, a set of

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **4** *L* **2** # 153
Amason, Dale Freescale

Comment Type **E** *Comment Status* **X**
Missing comma following phrase "In 100BASE-T1"

SuggestedRemedy
Add comma: In 100BASE-T1,

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **153**

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05/01/2015 19:35:24

Cl **00**   *SC* **0**   *P* **4**   *L* **3**   # 154
Amason, Dale   Freescale

Comment Type **E**   *Comment Status* **X**
Missing underline for Clause 96.

SuggestedRemedy
Add underline to "and Clause 96."

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **0**   *P* **43**   *L* **35**   # 155
Amason, Dale   Freescale

Comment Type **E**   *Comment Status* **X**
PMA_UNIDATA.indicate in paragraph but PMA_UNIDATA_indicate in Fig 96-14

SuggestedRemedy
Make paragraph and figure consistent

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P* **v**   *L* **13**   # 156
Amason, Dale   Freescale

Comment Type **ER**   *Comment Status* **X**
Task Force name should be replaced with 100BASE-T1. Same issue for lines 14 & 15.

SuggestedRemedy
Change "Task Force name" to 100BASE-T1

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **0**   *P* **26**   *L* **40**   # 157
Amason, Dale   Freescale

Comment Type **T**   *Comment Status* **X**
division symbol included in tx_enable_mii name. Same with tx_error_mii name on line 43.
Is this intended?

SuggestedRemedy
Remove if not intentional.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2.2**   *P* **61**   *L* **1**   # 158
Dwelley, Dave   Linear Technology Cor

Comment Type **T**   *Comment Status* **X**
The MDI RL lower corner frequency specification in 96.8.2.2 is burdensome for data line powered device applications because of the constraint it places on the coupling inductors. Increasing the 20dB RL lower corner frequency from 1MHz to 1.8MHz will reduce the required minimum coupling inductance from approx 40uH to approx 22uH with relatively minor impact on PHY performance. This reduction will allow the required current to be delivered to a data line powered device while still meeting application constraints for inductor volume, parasitic resistance (DCR), and self-resonant frequency (SRF).

SuggestedRemedy
For 100BASE-T1 data line powered devices, it is proposed that the MDI RL requirement be modified per below in order to ease the requirement on the coupling inductors. Clause 104 (802.3bu) should incorporate the modified MDI RL specification for data line powered devices, and the following informative note should be incorporated in Clause 96 after subclause 96.8.2.2 in order to direct the reader to Clause 104:
Note: Data line powered devices should refer to Clause 104 for the relevant MDI RL specification.

-> Corresponding paragraph in Clause 104:

104.TBD MDI Return Loss for 100BASE-T1 Data Line Powered Devices

The MDI return loss (RL) shall meet or exceed the following equation for all frequencies from DC to 66 MHz (with 100 ohm reference impedance) at all times when the PHY is transmitting data or control symbols.

Return Loss (dB): 20 x log(SQRT(1 + (2 x pi x f x (2 x 22 microH)/50 Ohm)^2)) for f = DC - 1.8 MHz
20	for f = 1.8 - 30 MHz
20 - 20 x log(f/30)	for f = 30 - 66 MHz

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **158**

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05/01/2015 19:35:24

Cl **99**   *SC*   *P* **i**   *L* **28**   # 159
Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **X**
The purpose of this version of the amendment is mis-stated.

SuggestedRemedy
Replace:
The purpose of this version of the amendment is to
provide the preview of the draft to the 802.3 Working Group in anticipation of voting the draft to Working
Group Ballot during the San Antonio plenary.
With:
The purpose of this version of the amendment is to
provide a draft for initial Working Group ballot.

Proposed Response   *Response Status*   **O**

Cl **45**   *SC* **2.1.2001**   *P* **12**   *L* **29**   # 160
Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **X**
"Configure" spelled wrong.

SuggestedRemedy
Spell correctly.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **1.2**   *P* **15**   *L* **50**   # 161
Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **X**
We are not supposed to refer to cost.

SuggestedRemedy
Replace:
"allow for lower cost (often lower quality) cabling"
With:
"allow for lower quality cabling"

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **1.2.3**   *P* **16**   *L* **17**   # 162
Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **X**
Extra underscores left in text. Should refer to singular wire pair.

SuggestedRemedy
Replace:
"over _each wire pair_"
With:
"over a one twisted pair channel"

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **1.2.3**   *P* **16**   *L* **23**   # 163
Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **X**
Multiple typos.

SuggestedRemedy
Replace:
"Start-of_stream delimiter (SSD), End-of-Stream (ESD)"
With:
"Start-of-Stream Delimiter (SSD), End-of-Stream Delimiter (ESD)"

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **1.2.3**   *P* **16**   *L* **17**   # 164
Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **X**
Typo, missing colon.

SuggestedRemedy
Replace:
"including"
With:
"including:"

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **164**   Page 32 of 117
05/01/2015 19:35:24

Cl **99**　　*SC* **99**　　　　　*P* **6**　　　*L* **18**　　　# 165
Law, David　　　　　　　　　　　HP

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

Please include the working group balloter list supplied in the file <IEEE_P802d3bw_WG_names.pdf>.

SuggestedRemedy

See comment.

Proposed Response　　*Response Status* **O**

Cl **00**　　*SC* **0**　　　　　*P* **3**　　　*L* **0**　　　# 166
Law, David　　　　　　　　　　　HP

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

'IEEE 802.3bw Task Force 100BASE-T1 Task Force' should read 'IEEE 802.3bw 100BASE-T1 Task Force'.

SuggestedRemedy

See comment.

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.1**　　　　*P* **25**　　　*L* **25**　　　# 167
Law, David　　　　　　　　　　　HP

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

In Figure 96-4 'PCS Data Transmission Enabling state diagram' the not equals function should be represented by the mathematical 'not equal to' symbol rather than '!=' (see IEEE Std 802.3-2012 Table 21-1 1-State diagram operators).

This comment also applies to Figure 96-9 'PCS Receive state diagram' and Figure 96-16 'Link Monitor State Diagram'.

SuggestedRemedy

See comment.

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3.2**　　　*P* **45**　　　*L* **45**　　　# 168
Law, David　　　　　　　　　　　HP

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

In the definition of the function ENCODE, which is used in the PCS Transmit State Diagram in Figure 96-6, it is stated that ENCODE follows the rules outlined in 96.3.2.3. The first line of subclause 96.3.2.3 however states that 'The PCS Transmit function shall conform to the PCS Transmit State Diagram in Figure 96-6 ...'. This appears to be somewhat circular, and instead a cross reference to 96.3.2.4 'PCS transmit symbol mapping' where the encoding rules are defined would seem to be better.

SuggestedRemedy

Suggest that the text '... outlined in 96.3.2.3.' should be changed to read '... defined in 96.3.2.4.'.

Proposed Response　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **168**　　　　Page 33 of 117
05/01/2015 19:35:24

Cl **96** *SC* **96.1.5** *P* **17** *L* **17** # 169

Law, David HP

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

In Figure 96-1 'Functional Block Diagram' the PCS Transmit Enable block has the following inputs:

TX_EN
TX_ER
tx_mode
link_status

In Figure 96-3 'PCS reference diagram' the PCS Transmit Enable block has the following inputs:

TXD<3:0>
TX_EN
TX_ER
tx_mode
link_status

In Figure 96-4 'PCS Data Transmission Enabling state diagram' the inputs are:

TX_EN
TX_ER
tx_mode

SuggestedRemedy

Suggest that [1] the input link_status be removed from the PCS Transmit Enable block in Figure 96-1 'Functional Block Diagram', that [2] the inputs TXD<3:0> and link_status are removed from the PCS Transmit Enable block in Figure 96-4 'PCS Data Transmission Enabling state diagram', [3] Figure 96-4 'PCS Data Transmission Enabling state diagram' be renamed 'PCS Transmit Enable state diagram' and [4] subclause 96.3.2.1 'PCS transmit enabling' be renamed 'PCS Transmit Enable'.

In addition to align the text with the similar text in subclause 96.3.2.3 'PCS transmit function' including the use of a shall statement in respect to the associated state diagram, suggest that subclause 96.3.2.1 be changed to read as follows (suggested text assumes all the changes above area accepted):

96.3.2.1 PCS Transmit Enable

The PCS Data Transmit Enable function shall conform to the PCS Transmit Enable State Diagram in Figure 96-4.

When tx_mode is equal to SEND_N the signals tx_enable_mii and tx_error_mii are equal to the value of the MII signals TX_EN and TX_ER respectively, otherwise tx_enable_mii and tx_error_mii are set to the value FALSE.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.2.3** *P* **41** *L* **25** # 170

Law, David HP

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

Minor point, but I believe that requiring conformance to a state diagram is sufficient, and by definition requires conformance to its associated state variables, functions, timers and messages is not necessary.

SuggestedRemedy

Suggest that the text '... and the associated state variables, functions, timers and messages' be deleted.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.2.2.2** *P* **41** *L* **17** # 171

Law, David HP

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

The text states that the '... tx_enable signal shall stay high ...' yet according to subclause 96.3.2.3.1 'Variables' tx_enable can take either the values ' TRUE or FALSE'.

SuggestedRemedy

Suggest that '... and correspondingly, tx_enable signal shall stay high till all the bits in a packet ...' be to read '... and correspondingly, the tx_enable signal remains TRUE until all the bits in a packet ...'.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **171** Page 34 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.3.2.3**   *P* **43**   *L* **20**   # 172

Law, David   HP

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

Each state of the PCS Transmit State Diagram (Figure 96-6) contains a TSPCD which would appear to be an alias for a message, however TSPCD is not defined in subclause 96.3.2.3.4 'Messages', a subclause of subclause 96.3.2.3 'PCS transmit function'. Instead TSPCD is defined as 'Transmit Symbol Pair Converted Done, synchronized with PCS transmit clock pc_txclk of frequency 33.333 MHz.' in subclause 96.3.3.1.1 'Variables' which is a subclause of 96.3.3.1 'PCS Receive overview'. Based on this the definition of TSPCD seems to be in the wrong subclause, however the transition from each state in the PCS Transmit State Diagram is already controlled by STD (Alias for symb_pair_timer_done) so not sure if this additional time is required.

Subclause 96.3.2.3.2 'Functions' states that the ENCODE function outputs a tx_symb_vector which is defined as a vector of ternary symbols, yet in the Figure 96-6 'PCS Transmit state diagram' the output of the ENCODE function in the state 'TRANSMIT DATA' is assigned directly to tx_symb_pair which is defined as pair of ternary symbols.

The variable tx_symb_pair is only used in Figure 96-6 'PCS Transmit state diagram' and there no reference to it elsewhere, in particular no reference in respect to the 2D to 1D conversation required to create tx_symb_vector, I assume that the conversion is actually performed by TSPCD which should be a function and not a variable, and is described in subclause 96.3.2.4.10 'Generation of symbol sequence'.

Finally there seems to be no use of the message PUDR defined in subclause 96.3.2.3.4 to transfer the tx_symb_vector to the PMA.

SuggestedRemedy

Suggest that:

[1] The definition of TSPCD is moved from subclause 96.3.3.1.1 'Variables' of PCS Receive to subclause 96.3.3.1.2 'Functions' of PCS Transmit.

[2] All instances of TSPCD be changed to TSPC and that the definition of TSPC be changed to read 'Transmit Symbol Pair Convert, this function takes as its argument the value of tx_symb_pair and returns the corresponding tx_symb_vector as defined in subclause 96.3.2.4.10.

[3] The function PUDR is added to each state of Figure 96-6 'PCS Transmit state diagram'.

[4] The definition of the ENCODE function should be change from '... and returns the corresponding tx_symb_vector.' to read '... and returns the corresponding tx_symb_vector.'.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.10**   *P* **50**   *L* **22**   # 173

Law, David   HP

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

Subclause 96.3.2.4.10 'Generation of symbol sequence' is a subclause of 96.3.2.4 'PCS transmit symbol mapping' and as such shouldn't contain receiver requirements.

SuggestedRemedy

Suggest the text 'The receiver implementation shall de-interleave the sequence accordingly' be deledted from this subclause and moved to sucbaluse of subclause 96.3.3.2 PCS 'Receive symbol decoding'.

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.3.2.1.2**   *P* **22**   *L* **10**   # 174

Law, David   HP

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

To match other enumerations suggest that the description for 100BASE-T1 enumerations reads 'Clause 96 100 Mb/s PAM3' in both subclause 30.3.2.1.2 and 30.3.2.1.3.

SuggestedRemedy

Suggest that in both subclause 30.3.2.1.2 and 30.3.2.1.3, the text 'Clause 96 100 Mb/s Single-pair' be changed to read 'Clause 96 100 Mb/s PAM3'.

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.5.1.1.2**   *P* **22**   *L* **29**   # 175

Law, David   HP

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

To match other enumerations that only support full-duplex (for example 10GBASE-LX4) suggest that the description for 100BASE-T1 enumerations reads 'One-pair twisted-pair balanced copper cabling PHY as specified in Clause 96'.

SuggestedRemedy

Suggest that the text 'Single-pair as specified in Clause 96, full duplex mode' be changed to read 'One-pair twisted-pair balanced copper cabling PHY as specified in Clause 96'.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **175**

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Cl **96**   *SC* **96.5.5.3**   *P* **71**   *L* **14**   # 176
Remein, Duane   Huawei Technologies

Comment Type **E**   *Comment Status* **X**
Extraneous mark-up: ofto

SuggestedRemedy
remove

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.5.3**   *P* **71**   *L* **17**   # 177
Remein, Duane   Huawei Technologies

Comment Type **E**   *Comment Status* **X**
The 1e-10 should not be allowed to split across a line.

SuggestedRemedy
This can be prevented by marking the work as no-hyphenating using the key sequence {Esc n s}.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2**   *P* **74**   *L* **45**   # 178
Remein, Duane   Huawei Technologies

Comment Type **E**   *Comment Status* **X**
Table 96.7.1. should be section ref

SuggestedRemedy
change to 96.7.1

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **29**   *L* **30**   # 179
Remein, Duane   Huawei Technologies

Comment Type **E**   *Comment Status* **X**
My guess regarding the following statement that you are trying to establish that these two PHYs operate of the same channel model but 100BASE-T1 uses one pair while 1000BASE-T uses four.
"IEEE 802.3 1000BASE-T, or Gigabit, PHY is specified in Clause 40, and it operates over four pairs of a channel compliant with 40.7. In contrast, the 100BASE-T1 PHY operates over a one pair channel."

SuggestedRemedy
Reword to:
The 100BASE-T1 PHY and the 1000BASE-T PHY share a common channel model as described in Clause 40 except that the 100BASE-T1 PHY only uses one of the four wire pairs available in the 1000BASE-T media.

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **0**   *P* **29**   *L* **35**   # 180
Remein, Duane   Huawei Technologies

Comment Type **E**   *Comment Status* **X**
There is not need to include the sub-clause title in a reference.

SuggestedRemedy
Strike "100BASE-T1 Physical Coding Sublayer (PCS) Functions" here and remove any other section titles in cross references in the draft

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2.3**   *P* **30**   *L* **23**   # 181
Remein, Duane   Huawei Technologies

Comment Type **E**   *Comment Status* **X**
End-of-Stream (ESD)

SuggestedRemedy
End-of-Stream delimiter(ESD)

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **181**

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05/01/2015 19:35:24

Cl **96**   *SC* **96.2.1.1.1**   *P* **32**   *L* **34**   # 182

Remein, Duane   Huawei Technologies

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

Extraneous hyphen 100BASE-T1-initialization (3x). Also have a spare dash in front of "by" on line 37

SuggestedRemedy

remove extraneous characters.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1**   *P* **29**   *L* **5**   # 183

Remein, Duane   Huawei Technologies

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

In most recent clauses a table is included that maps PHY variables to MDIO registers (see Tables 82–6, 83-2, 84-2, 84-3, 85-2, 85-3 and others for examples).

SuggestedRemedy

Include a PHY variable to mdio register mapping table.

Proposed Response   *Response Status* **O**

Cl **96**   *SC*   *P*   *L*   # 184

Remein, Duane   Huawei Technologies

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

It is confusing to start a sentence with a lower case variable name:
"receiver). loc_rcvr_status is generated"

SuggestedRemedy

Change to:
"receiver). The loc_rcvr_status variable is generated"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.4**   *P* **59**   *L* **5**   # 185

Remein, Duane   Huawei Technologies

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

Shades of past sins; "DISABLE BroadR-Reach TRANSMITTER"

SuggestedRemedy

suggest just "DISABLE TRANSMITTER"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1.3**   *P* **62**   *L* **45**   # 186

Remein, Duane   Huawei Technologies

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

It is not clear to me what Tx clock freq has to do with EMC

SuggestedRemedy

Change to L3 header

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **36**   # 187

Remein, Duane   Huawei Technologies

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

Equations should be entered using the FrameMaker equation editor using para style Equation or EU,EquationUnnumbered
Same comment line 48-52

SuggestedRemedy

Use Equation editor and proper style

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **187**   Page 37 of 117
05/01/2015 19:35:24

Cl **96**   *SC* **96.5.3**   *P* **64**   *L* **20**   # 188
Remein, Duane   Huawei Technologies

Comment Type **E**   *Comment Status* **X**
Which "it" is it? I would assume the test fixture.

SuggestedRemedy
Change
"It may include passive components"
to
"The text fixture may include passive components"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.1.1**   *P* **40**   *L* **33**   # 189
Remein, Duane   Huawei Technologies

Comment Type **ER**   *Comment Status* **X**
Variables, counters etc. should use para style VariableList per current template

SuggestedRemedy
Use VariableList style for all variables, counters etc.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3**   *P* **41**   *L* **28**   # 190
Remein, Duane   Huawei Technologies

Comment Type **ER**   *Comment Status* **X**
Inconsistent ref to symbol as An. Sometimes A is in italic and sometime it is not.
Sometime n is italic subscripted sometime not. Compare ln 28 to line 51.

SuggestedRemedy
Be consistent.
I suggest italics to be consistent with IEEE style guide (variables should be in italics)
without subscripting (to be nicer to your editors).

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.5**   *P* **48**   *L* **4**   # 191
Remein, Duane   Huawei Technologies

Comment Type **ER**   *Comment Status* **X**
Use of bold font for TAn, TBn is not appropriate.

SuggestedRemedy
Use character style EquationVariables for this and all other variables embedded in draft
text.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.6**   *P* **48**   *L* **17**   # 192
Remein, Duane   Huawei Technologies

Comment Type **ER**   *Comment Status* **X**
In table 96-1 are we to assume TAn and TBn are Ternary A and Ternary B respectively?
Assumptions should not be required in a standard.
Same issue in Tables 96-2 & 96-3

SuggestedRemedy
Change Ternary A and Ternary B to TAn and TBn respectively in all tables.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.6**   *P* **48**   *L* **25**   # 193
Remein, Duane   Huawei Technologies

Comment Type **ER**   *Comment Status* **X**
Table Style does not match 802.3 Template. Also why is the row starting "Used for
SSD/ESD" in tables 96-1 and 96-2 in bold font?

SuggestedRemedy
Convert all tables and table cells to proper style.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **193**   Page 38 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:24
SORT ORDER: Comment ID

Cl **00** *SC* **0** *P* **16** *L* **25** # 194
Remein, Duane Huawei Technologies

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

Change marking to existing text should show additions in underlined text and ALL removed text in strike-out. For example line 25 should read
"IEEE Std 802.3, Clause 23, Clause 24, Clause 32, Clause 36, and Clause 40 and Clause 96.)"
The "and" before "Clause 40" should be in strikeout and that before "Clause 96" in underline.
If this convention is not followed staff editors may incorrectly change the standard.

SuggestedRemedy

Review all changed text in the draft for proper mark-up.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **29** *L* **18** # 195
Remein, Duane Huawei Technologies

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

Paragraphs styles vary significantly from IEEE Style Guide and current 802.3 template.

SuggestedRemedy

Update all paragraph and character styles to comply with IEEE Style Guide and current 802.3 template. Items to consider include:
external references s/b in Char Style External (forest green)

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.313** *P* **17** *L* **5** # 196
Remein, Duane Huawei Technologies

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

The proposed additions to the examples in 1.4.313, 1.4.314 and 1.4.315 are extraneous. The list is an example and does not exhaustively list all PCS's, Many other examples exist in the standard. Unnecessary changes can introduce errors into the standard and should be avoided.

SuggestedRemedy

Strike these changes.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.x** *P* **18** *L* **15** # 197
Remein, Duane Huawei Technologies

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

These additions are incorrectly specified. Should include in the editing instruction "Insert the following after 1.4.x" where 1.4.x is the para preceding the added para.
For example:
"Insert the following after 1.4.95:
1.4.95a Automotive Cabling: Balanced 100 ohm one pair cable and associated hardware having specified transmission characteristics are provided in 96.7.1."

SuggestedRemedy

Correct para numbering and editing instructions to follow current style and template.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **16** *L* **54** # 198
Remein, Duane Huawei Technologies

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

Page numbering is incorrect.

SuggestedRemedy

Renumber to match pdf pg number (or forever be confused).

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.2.1.2** *P* **22** *L* **11** # 199
Remein, Duane Huawei Technologies

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

Avoid confusing "Change" with "Insert" - they tell the staff editors to do very different things

SuggestedRemedy

Review all edition instructions and assure correct wording and style is used.
Change - changes existing text using mark-up
Insert - adds new text to the clause and does not require mark-up, however, the editing instruction should be explicit regarding location of change (i.e., Insert the following after xyz).

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **199**

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05/01/2015 19:35:24

Cl **96A**   *SC* **96A**   *P* **79**   *L* **1**   # 200
Remein, Duane   Huawei Technologies

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

I believe this is superfluous, you mention CL 45 and MDIO in CL 96 this annex is not needed

SuggestedRemedy

Drop the annex.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.10**   *P* **26**   *L* **3**   # 201
Remein, Duane   Huawei Technologies

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

There is not current row for bit 1.11.11.
"Insert the following rows into Table 45-13 in place of the reserved row for bit 1.11.11"

SuggestedRemedy

Change editing instruction to read:
"Change the identified reserved row in Table 45–13 as follows:"
In Table 45-13 show:
1.11.15:121 | Reserved | Ignore on read | RO {with 1 in strike-out}
1.11.11 | 100BASE-T1 ability | 1 = PMA/PMD is able to perform 100BASE-T1
0 = PMA/PMD is not able to perform 100BASE-T1 | RO {in underline}

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001**   *P* **26**   *L* **17**   # 202
Remein, Duane   Huawei Technologies

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

Para 45.2.1.2001 - 45.2.1.2003.1 and accompanying tables are incorrectly numbered. should have the number of the last para in the std with alpha appended. For example
45.2.1.2001 => 45.2.1.106a
Table 45–2001 => Table 45–78a

SuggestedRemedy

Renumber remaining para correctly.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001.1**   *P* **26**   *L* **40**   # 203
Remein, Duane   Huawei Technologies

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

All Level 5 headers in Cl 45 should include the register bit designations in parens.
For example 45.2.1.2001.1 should read:
45.2.1.2001.1 100BASE-T1 MASTER-SLAVE manual config enable(1.2100.15)

SuggestedRemedy

Add register desig. to all Cl 45 L5 headers

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2002.2**   *P* **27**   *L* **23**   # 204
Remein, Duane   Huawei Technologies

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

Should be L4 header not L5

SuggestedRemedy

Change to L4 header,

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.5**   *P* **31**   *L* **1**   # 205
Remein, Duane   Huawei Technologies

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

Figure 96-1 may not print correctly on a black & white printer (like the one I use) and should therefore the figure should be black & white. It would be nice also if the font size was not quite so small. Avoid signal names from crossing lines (received_clock & recovered_clock for example)

SuggestedRemedy

Convert all figures to B&W. If possible increase font size to 8 pt or better.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **205**   Page 40 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.2.4.1**   *P* **35**   *L* **18**   # 206
Remein, Duane   Huawei Technologies

Comment Type **T**   *Comment Status* **X**
From Fig 96-1 it appear that config operates on PMA Receive along with PMA Transmit

SuggestedRemedy
Change "PCS and PMA Transmit" to "PCS and PMA"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.1.1**   *P* **40**   *L* **40**   # 207
Remein, Duane   Huawei Technologies

Comment Type **T**   *Comment Status* **X**
Variables tx_enable_mii and tx_error_mii appear to be divided by nothing.
More importantly while the description tells me where these variables are generated it tells
me nothing about what they mean.

SuggestedRemedy
Remove division sign after variable name.
Add formal definition of variables
tx_enable_mii
When set to FALSE transmission is disabled, when set to TRUE transmission is enabled.
tx_error_mii
When this variable is set to FALSE it indicates an errored transmission, when set to TRUE
it indicates a non-errored transmission.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.2.1**   *P* **41**   *L* **8**   # 208
Remein, Duane   Huawei Technologies

Comment Type **T**   *Comment Status* **X**
The phrase "local crystal or oscillator" denotes implementation.

SuggestedRemedy
Change to "a local source"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3**   *P* **43**   *L* **46**   # 209
Remein, Duane   Huawei Technologies

Comment Type **T**   *Comment Status* **X**
Figure 96-6 should use the proper symbol for assignment in all states.
Also it has significant white space to left and right and can therefore be increased in size to
avoid using an excessively small font size (in this case 7.5 pt).

SuggestedRemedy
Us proper assignment symbol (see template)
Increase overall size.
Other suggested guidelines for SD's:
Avoid line wrapping by increasing horizontal size of blocks.
Avoid crossing connection lines if possible (it is in Fig 96-6).
Enter states from the top, exit from the bottom

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3.3**   *P* **46**   *L* **52**   # 210
Remein, Duane   Huawei Technologies

Comment Type **T**   *Comment Status* **X**
Per this description symb_timer_done is a signal with no duration.
"Continuous timer: The condition symb_timer_done becomes true upon timer expiration.
Restart time: Immediately after expiration; timer restart resets the condition
symb_timer_done."

Same issue existed in symb_pair_timer on next page.

SuggestedRemedy
Change
"Restart time: Immediately after expiration; timer restart resets the condition
symb_timer_done."
to read
Restart time: Next clock after expiration; timer restart resets the condition
symb_timer_done."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID   *Comment ID* **210**   Page 41 of 117
05/01/2015 19:35:25

Cl **96** *SC* **96.3.2.4.2** *P* **47** *L* **8** # 211
Remein, Duane   Huawei Technologies

Comment Type **T** *Comment Status* **X**
This section states that: "Generation of Syn[2:0] and Scn[2:0] adopts the encoding rules, when applicable, from 40.3.1.3.2." However, Scn is not specified in 40.3.1.3.2, rather it is in 40.3.1.3.3.

SuggestedRemedy
Perhaps you should be referring to Sgn, Sxn, or should also refer to 40.3.1.3.3.

Proposed Response   *Response Status* **O**

Cl **45** *SC* **45.2.1.1** *P* **24** *L* **24** # 212
Remein, Duane   Huawei Technologies

Comment Type **T** *Comment Status* **X**
No proposed change illustrated. Missing assignments for values 01xx

SuggestedRemedy
remove section

Proposed Response   *Response Status* **O**

Cl **96** *SC* **96.5.5.3** *P* **71** *L* **31** # 213
Remein, Duane   Huawei Technologies

Comment Type **T** *Comment Status* **X**
More past sins. Are you testing a BroadR-Reach transmitter :-O

SuggestedRemedy
Change all 3 instance of BroadR-Reach in the draft to 100BASE-T1.

Proposed Response   *Response Status* **O**

Cl **96** *SC* **96.6.1** *P* **71** *L* **47** # 214
Remein, Duane   Huawei Technologies

Comment Type **T** *Comment Status* **X**
Standard do not have the force of will: "All 100BASE-T1 PHYs will default to"

SuggestedRemedy
Change will to shall

Proposed Response   *Response Status* **O**

Cl **45** *SC* **45.2.1.2001** *P* **26** *L* **32** # 215
Remein, Duane   Huawei Technologies

Comment Type **T** *Comment Status* **X**
enumeration for 1.2100.3:0. Is this bit 0, 1, 2 & 3 or 3, 2, 1 & 0?

SuggestedRemedy
Add key above enumeration

Proposed Response   *Response Status* **O**

Cl **45** *SC* **45.2.1.2002** *P* **27** *L* **1** # 216
Remein, Duane   Huawei Technologies

Comment Type **T** *Comment Status* **X**
Ln 20 states that "This bit is identical to bit 1.1.2, when operating mode is set to 100BASE-T1." However there appears to be no difference in the definition of this bit, applicable only to 100BASE-T1 PMA/PMDs and bit 1.1.2 which is applicable to 100BASE-T1 PMA/PMDs and all others.
Which makes me question the need for a bit duplicating a minor function of and existing bit.

SuggestedRemedy
Strike this bit.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **216**   Page 42 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.1.2**   *P* **29**   *L* **49**   # 217
Remein, Duane   Huawei Technologies

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

the following seems a bit too subjective "the best part of a twisted pair channel". To some the sheathing might be the "best part"

SuggestedRemedy

Clarify what is meant by "best part" (maybe refers to RF spectrum?)

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **30**   *L* **50**   # 218
Remein, Duane   Huawei Technologies

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

Does the following statement imply that such cabling fully supports the advertised 1000 Mbps data rate? Or that one should deploy such cabling? If the lower quality cabling is more expensive will it still work?
"also allow for lower cost (often lower quality) cabling"

SuggestedRemedy

Change to:
"also allow for reduce performance operation over lower quality cabling"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **29**   *L* **28**   # 219
Remein, Duane   Huawei Technologies

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

Most if not all PHY specification in 802.3 include a layering diagram such as Figure 40–1 or Figure 32–1.

SuggestedRemedy

Include a similar figure in Cl 96

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.2**   *P* **32**   *L* **11**   # 220
Remein, Duane   Huawei Technologies

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

This statement is contrary to the following objective "The resulting standard will not preclude single pair auto-negotiation."
c) The 100BASE-T1 PHY does not use auto-negotiation due to associated latency that does not meet start-up time requirements of automotive networks. The 100BASE-T1 PHY MASTER-SLAVE relationship is set by FORCE mode.

SuggestedRemedy

Strike the statement.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.4.10**   *P* **50**   *L* **20**   # 221
Remein, Duane   Huawei Technologies

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

If interleaving at the transmitter can be either TA/TB or TB/TA how does the receiver know how to de-interleave? Is there some provisioned parameter that controls this?

SuggestedRemedy

Clarify how the receive knows the proper de-interleaving order.
If the answer to this is something like "See 96.3.3.4 PCS Receive Automatic Polarity Detection" then 96.3.3.4 cannot be optional.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.1**   *P* **51**   *L* **1**   # 222
Remein, Duane   Huawei Technologies

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

This state diagram is illegible. The use of 4.5 pt font is not acceptable.
IEEE Style Manual Table 1 states: "Text point size
IEEE-SA uses 8-point type size. All capital letters or mixed uppercase and lowercase letters may be used, depending on the amount of text, as long as the presentation is consistent throughout the document.

SuggestedRemedy

Modify SD to conform to IEEE Style Manual

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **222**

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05/01/2015 19:35:25

Cl **96**   *SC* **96.3.3.1.1**   *P* **53**   *L* **44**   # 223

Remein, Duane   Huawei Technologies

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

The following does not describe the variable:
INVALID
Any random three-bit outputs are invalid and disregarded

SuggestedRemedy

Review ALL constants, variables, functions, counters, timers, etc verifying that the description explains the object in a clear and concise way. For those objects without a clear explanation either add one or add an editors note "EDITORS NOTE (to be removed prior to publication); this object is missing a clear and concise explanation."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.1.1**   *P* **53**   *L* **27**   # 224

Remein, Duane   Huawei Technologies

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

RXn
Most recently received symbol pair generated by PCS Receive at time n

I can be the most recently received or the one received at time n but it cannot be both.

SuggestedRemedy

Clarify which it is.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.4**   *P* **40**   *L* **42**   # 225

Remein, Duane   Huawei Technologies

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

802.3 prides itself on it's reputation as a "plug & play" technology. The required provisioning of MASTER/SLAVE will interfere with this functionality. If two PHYs provisioned both as MASTER or both as SLAVE are connected they will not operate correctly.
In all previous 802.3 PHY that I am aware of the MASTER/SLAVE relationship, if required, was either negotiated or very obvious (as in PON where the CLT is the master and all ONUs are slaves).
How will you prevent fault conditions due to misconfiguration of MASTER/SLAVE?

SuggestedRemedy

Add negotiable MASTER/SLAVE functionality.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1**   *P* **62**   *L* **28**   # 226

Remein, Duane   Huawei Technologies

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

This EMC requirement is way to vague; what are the EMC requirements for automotive applications?
Systems containing a 100BASE-T1 Ethernet PHY shall be able to meet the Electromagnetic Compatibility (EMC) requirements of the automotive applications.

SuggestedRemedy

Add a reference to an external specification or include a full specification in this draft.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.2.5.1**   *P* **35**   *L* **51**   # 227

Remein, Duane   Huawei Technologies

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

Not sure if this is a dash 1 or minus 1 (minus sign should use an EN dash, Ctrl-q Shift-p in framemaker). Looks like a dash here but is OK on pg 36 ln 25

SuggestedRemedy

Use en dash for minus sign if not already doing so.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **227**   Page 44 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:25
SORT ORDER: Comment ID

Cl **96** *SC* **96.3.2.2.2** *P* **41** *L* **15** # 228
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **X**
What are these packet things? We typically deal only in frames in 802.3.

SuggestedRemedy
Change 13 instances of packet to frame

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.2.3** *P* **42** *L* **40** # 229
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **X**
Figure 96-5 crosses page.

SuggestedRemedy
Split into 3 separate figures

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.2.4.8** *P* **49** *L* **9** # 230
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **X**
This equation should be in para style Equation (or possibly EU,EquationUnnumbered) and should be entered using the FrameMaker equation editor

SuggestedRemedy
Use proper Style and Equation Editor

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **18** *L* **15** # 231
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **X**
1.4.x name: definition uses Paragraph Tag D3,Definitions. (See Clause 96.) seems a bit out of place.
Same for [abbreviations use paragraph tag AcrList,ac] on line 41
And for Notes for editors (not to be included in the published draft) pg 19-20

SuggestedRemedy
strike both

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.3** *P* **65** *L* **45** # 232
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **X**
Had to hunt for Vd. Add ref to Fig 96-18.

SuggestedRemedy
per comment, combine para at ln 44 & ln 48 into one para.
Or split this section into 3 L4 sections; one for each figure.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.4.2** *P* **53** *L* **6** # 233
Remein, Duane Huawei Technologies

Comment Type **E** *Comment Status* **X**
Nice colors. what do they mean?

SuggestedRemedy
remove the nice colors from the matlab code.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **233**

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05/01/2015 19:35:25

Cl **96**　　　*SC* **96.5.4.3**　　　　　*P* **68**　　　*L* **20**　　　# 234
Remein, Duane　　　　　　　　　　Huawei Technologies

Comment Type **E**　　　*Comment Status* **X**
Is there some special reason for creating this unused three letter mnemonic?

SuggestedRemedy
Change
No High Pass Filter (HPF)
to
No high pass filter

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.5.4.4**　　　　　*P* **69**　　　*L* **31**　　　# 235
Remein, Duane　　　　　　　　　　Huawei Technologies

Comment Type **E**　　　*Comment Status* **X**
When aligning all the ugly table to 802.3 template be sure to use the proper note style

SuggestedRemedy
per comment

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.5.4.5**　　　　　*P* **70**　　　*L* **36**　　　# 236
Remein, Duane　　　　　　　　　　Huawei Technologies

Comment Type **E**　　　*Comment Status* **X**
Are you going to use a table or text?
Same issues pg 71 ln 3

SuggestedRemedy
Change:
The symbol transmission rate of the 100BASE-T1 PHY in MASTER mode shall be within
the range:
to
The symbol transmission rate of the 100BASE-T1 PHY in MASTER mode shall be within
the range shown in Table 96-xxx.

Convert the stuff on line 36-38 to a proper table.

Perform a similar fix on pg 71 ln 3-10.

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.2.2.1**　　　　　*P* **32**　　　*L* **24**　　　# 237
Remein, Duane　　　　　　　　　　Huawei Technologies

Comment Type **T**　　　*Comment Status* **X**
What exactly PMA_LINK.request means is not explained.

SuggestedRemedy
Provide a concise meaning for this primitive.

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.3.2.4.10**　　　　*P* **50**　　　*L* **1**　　　# 238
Remein, Duane　　　　　　　　　　Huawei Technologies

Comment Type **T**　　　*Comment Status* **X**
Interesting colors in Fig 96-8. I have not idea what they mean though.
Note the IEEE Style Manual states: "Color in figures shall not be required for proper
interpretation of the information."

SuggestedRemedy
Add key to figure after converting to B&W

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.3.3.1.3**　　　　*P* **54**　　　*L* **3**　　　# 239
Remein, Duane　　　　　　　　　　Huawei Technologies

Comment Type **T**　　　*Comment Status* **X**
Expires after counting 36K (+/- 1.8K) pcs_rxclk clock cycles.
Most digital timers do not require a precision. Why can't this simply be 36k?

SuggestedRemedy
If the +/- is required convert it to the proper symbol (see current template).

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **239**

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05/01/2015 19:35:25

Cl **96**   *SC* **96.4**   *P* **56**   *L* **46**   *#* 240
Remein, Duane   Huawei Technologies

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

The following statement will not be testable in most implementation and is probably wrong.
"The PMA uses 3-level Pulse Amplitude Modulation (PAM3) which outputs 3 discrete
differential voltage levels [-1, 0, +1] volts."
Must the differential voltage be -1V or 0V or +1V? Wouldn't -3V, 0V and +3V work? In
most cases won't this will be internal to an asic and will probably be two digital bits
assuming the value of 01 00 and 10, possibly with 11 == 00?

SuggestedRemedy

Change to read:
"The PMA uses 3-level Pulse Amplitude Modulation (PAM3) which outputs 3 discrete
outputs represented by [-1, 0, +1]."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.1**   *P* **56**   *L* **3**   *#* 241
Remein, Duane   Huawei Technologies

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

Reference to 40.3.1.1 should probably be 40.4.2.1.
Also no "conditional LPI reference" could be found

SuggestedRemedy

Change ref per comment, clarify what is meant by conditional LPI reference.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.3**   *P* **57**   *L* **34**   *#* 242
Remein, Duane   Huawei Technologies

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

The text states: "The 100BASE-T1 PMA Receive function comprises a single receiver
(PMA Receive) for ternary PAM signals on a single
wire, BI_DA"
However Figure 96-14 implies two wires BI_DA+ and BI_DA-

SuggestedRemedy

Make the text and figure agree.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.7.1**   *P* **61**   *L* **5**   *#* 243
Remein, Duane   Huawei Technologies

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

The variable config appears to have two definitions, here and in 96.3.2.3.1.
Same is true for tx_enable, & tx_mode

SuggestedRemedy

In all cases define the variable once and ref. the definition in the second location.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3.1**   *P* **44**   *L* **31**   *#* 244
Remein, Duane   Huawei Technologies

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

Conflicting times in definition of RAn
"The vector of the correctly aligned most recently received ternary symbols generated by
PCS Receive at time n."
Is it the time most recently received or at time n? The latter I would assume

SuggestedRemedy

change to read:
"The vector of the correctly aligned ternary symbols generated by PCS Receive at time n."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3.1**   *P* **44**   *L* **33**   *#* 245
Remein, Duane   Huawei Technologies

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

What does this variable mean?
100BT1receive
The receiving parameter generated by the PCS Receive function in 96.3.3
Values: TRUE or FALSE

SuggestedRemedy

Add descriptive text explaining the variable as was done for 100BT1transmit

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **245**   Page 47 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.3.2.4.4**   *P* **4047**   *L* **40**   *#* 246
Remein, Duane   Huawei Technologies

Comment Type **TR**   *Comment Status* **X**
It is not clear what the symbol "^" means in this context. This symbol is normally used to indicate the first term is raised to the power indicated by the 2nd term. Here I suspect it is meant as a logical XOR as is clearly stated in Cl 40.

SuggestedRemedy
Indicate what the symbol is being used for using a note immediately after each use such as "where ^ denotes the XOR logic operator"

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.6**   *P* **24**   *L* **53**   *#* 247
Remein, Duane   Huawei Technologies

Comment Type **TR**   *Comment Status* **X**
In Table 45-7 the value 0 1 1 1 0 0 is already used for 10GBASE-PR-D4

SuggestedRemedy
Coordinate with WG Secretary and other TF editors to avoid overlap is selection of an appropriate value and change accordingly.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2.1**   *P* **74**   *L* **47**   *#* 248
Remein, Duane   Huawei Technologies

Comment Type **TR**   *Comment Status* **X**
Because you have already required "the electrical requirements specified in 96.7.1." this statement, which is identical at the moment to 96.7.1.1, is a duplicate requirement. Specifying the same thing is two different location is always a bad idea.

SuggestedRemedy
Strike this section

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2.2**   *P* **75**   *L* **1**   *#* 249
Remein, Duane   Huawei Technologies

Comment Type **TR**   *Comment Status* **X**
Above you state that the connector must meet "the electrical requirements specified in 96.7.1." which include a Return Loss spec. in 96.7.1.3, part of 96.7.1.
Thus you have created conflicting requirements.

SuggestedRemedy
Resolve the conflict by dropping 96.8.2.2 or being more specific about which parts of 96.7.1 apply to the connector and which do not.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2002**   *P* **27**   *L* **10**   *#* 250
Remein, Duane   Huawei Technologies

Comment Type **TR**   *Comment Status* **X**
Table 45–2002 must assign ALL bits in the register not just those your have a particular interest in.
Same problem exists in Table 45-2003

SuggestedRemedy
Add definition for all reserved bits.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.1**   *P* **50**   *L* **34**   *#* 251
Thompson, Geoff   GraCaSI

Comment Type **ER**   *Comment Status* **X**
The grammar in this paragraph is pretty bad thus leaving the meaning fuzzy.

SuggestedRemedy
Replace with the following text (which I believe has the correct meaning): A JAB state machine as shown in Figure 96-10 is implemented to prevent any mis-detection of ESD1 and ESD2 that would make the PCS Receive state machine lock up in the DATA state.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **251**   Page 48 of 117
05/01/2015 19:35:25

Cl **96** *SC* **96.3.3.1** *P* **52** *L* **33** # 252

Thompson, Geoff GraCaSI

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

Plurarity mismatch in 2nd sentence.

SuggestedRemedy

Change to one of the following two choices (2nd preferred): a) The received symbol is converted to a 2-D ternary pair (RAn", RBn) first. b) The received symbols are converted to 2-D ternary pairs (RAn," RBn) first."

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.3.1.2** *P* **53** *L* **40** # 253

Thompson, Geoff GraCaSI

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

The 2nd sentence of this paragraph is too long and is unparsable.

SuggestedRemedy

Fix. I can't figure out appropriate text.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.4** *P* **59** *L* **5** # 254

Thompson, Geoff GraCaSI

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

State name uses a proprietary trademark unnecessarily

SuggestedRemedy

Change state name from: DISABLE BroadR-Reach TRANSMITTER" TO: "DISABLE TRANSMITTER"

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.1.3** *P* **62** *L* **48** # 255

Thompson, Geoff GraCaSI

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

The spec is not for a transmission" but rather a "transmission rate".

SuggestedRemedy

Change the text from: "The ternary symbol transmission at the MDI shall be.." TO: 'The ternary symbol transmission rate at the MDI shall be..."

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.2** *P* **63** *L* **12** # 256

Thompson, Geoff GraCaSI

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

The word Reserved" in test mode 3 is incorrect. The register is", in fact," not reserved.

SuggestedRemedy

Remove the word "Reserved"

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.2** *P* **64** *L* **13** # 257

Thompson, Geoff GraCaSI

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

Random" is a fantasy and not what is specified

SuggestedRemedy

Change the word "random" to "pseudo-random".

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.5.3** *P* **71** *L* **14** # 258

Thompson, Geoff GraCaSI

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

Text is shown in strikeout and underscore.

SuggestedRemedy

Remove text styling.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **258** Page 49 of 117
05/01/2015 19:35:25

Cl **96**　　*SC* **96.5.5.3**　　　　*P* **71**　　*L* **28**　　# 259
Thompson, Geoff　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
　Resistor values are shown in red and with wrong symbol (font problem?)

SuggestedRemedy
　Change red text to black and make sure that the ohm symbol appears in the PDF and printout. Add ohm symbol to Table 00-1 Symbol Table

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.5.5.3**　　　　*P* **71**　　*L* **32**　　# 260
Thompson, Geoff　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
　Tradename BroadR-Reach" appears.

SuggestedRemedy
　Remove tradename (2 places)

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.7**　　　　*P* **72**　　*L* **22**　　# 261
Thompson, Geoff　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
　Minor grammar and technical wording changes needed.

SuggestedRemedy
　Change text to read: The 100BASE-T1 PHY is designed to operate over a one-pair balanced cabling system. The single pair UTP cable supports an effective data rate of 100 Mb/s in each direction simultaneously. The link segment for a 100BASE-T1 PHY system i

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.10**　　　　*P* **76**　　*L* **1**　　# 262
Thompson, Geoff　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
　There is no substance to the PICs

SuggestedRemedy
　Complete the PICs Pro Forma

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.2**　　　　*P* **32**　　*L* **1**　　# 263
Thompson, Geoff　　　　　　GraCaSI

Comment Type **T**　　*Comment Status* **X**
　Clause 40 seems like a poor choice for a primitive reference.

SuggestedRemedy
　Take a look at the older 100 Mb/s clauses for a closer match. Refer to a 100 Mb/s clause. Please consider cl. 32.

Proposed Response　　*Response Status* **O**

Cl **01**　　*SC* **1.4.183**　　　　*P* **17**　　*L* **1**　　# 264
Thompson, Geoff　　　　　　GraCaSI

Comment Type **TR**　　*Comment Status* **X**
　Regarding the text: this delineates data transmission from idle." is incorrect in technical meaning and grammar.

SuggestedRemedy
　Change to read: "this delineates the transition from data transmission to idle."

Proposed Response　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **264**

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05/01/2015 19:35:25

Cl **01**　　*SC* **1.4.x**　　　　　*P* **18**　　*L* **17**　　# 265
Thompson, Geoff　　　　　GraCaSI

Comment Type **TR**　　*Comment Status* **X**
Not a definition because of the use of the words are provided"

SuggestedRemedy
Change text to read: "...are call out in..."

Proposed Response　　*Response Status* **O**

Cl **00**　　*SC* **0**　　　　　*P* **10**　　*L* **17**　　# 266
Thompson, Geoff　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
Lines 17 through 21 Titles (and perhaps people) are not up to date.

SuggestedRemedy
Get update from staff and correct.

Proposed Response　　*Response Status* **O**

Cl **01**　　*SC* **1.4.142**　　　　*P* **16**　　*L* **23**　　# 267
Thompson, Geoff　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
The text A set of ternary PAM3 symbols" is confusing as a PAM3 symbol is already ternary.

SuggestedRemedy
Change text to read: "A ternary set of PAM3 symbols..."

Proposed Response　　*Response Status* **O**

Cl **45**　　*SC* **45.2.1.2002.2**　　*P* **27**　　*L* **33**　　# 268
Thompson, Geoff　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
Number of modes doesn' match TM def'ns in Table 96-4

SuggestedRemedy
Change rows in Table 96-4 to read: Test mode 6/7 Reserved for future standards use","
operations not yet defined."

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.1**　　　　　*P* **29**　　*L* **9**　　# 269
Thompson, Geoff　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
Incomplete in description and grammar.

SuggestedRemedy
Change sentence to read: It is suitable for a variety of applications"," each copper port
supports a single twisted pair link segment connection up to 15 meters in length."

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.1**　　　　　*P* **31**　　*L* **1**　　# 270
Thompson, Geoff　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
Regarding Figure 95-1. The figure is placed incorrectly in the text. It should be no more
than 1 page away from the referring text. In this case the referring text is on page 29, line
15. The figure starts on page 31, line 1.

SuggestedRemedy
Move the figure forward.

Proposed Response　　*Response Status* **O**

Cl **96**　　*SC* **96.3.1**　　　　*P* **39**　　*L* **44**　　# 271
Thompson, Geoff　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
Reference requires reader to go to a different volume of the std.

SuggestedRemedy
Replace reference with functional text.

Proposed Response　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **271**　　　　Page 51 of 117
05/01/2015 19:35:25

Cl **30** *SC* **30.5.1.1.11** *P* **22** *L* **38** # 272
Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **X**
Doesn't cover all conditions of whether or not the media is available

SuggestedRemedy
Add definition for how this object should read when PHY is in FORCE or in TEST mode. Technical completion issue?)

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2.3** *P* **30** *L* **22** # 273
Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **X**
Carrier extension is a) an obsolete artifact of CSMA/CD and b) was never a feature of 100 Mb/s operation.

SuggestedRemedy
Delete the words or carrier extension"

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.3.1.1** *P* **52** *L* **45** # 274
Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **X**
How does one tell from the output value if the 3 bits is random" or otherwise?

SuggestedRemedy
Define "random" vs. non-random (I guess) in this context and add as allowed values.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.1** *P* **62** *L* **28** # 275
Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **X**
The first sentence has a shall" requirement with non-specified"," generalized requirement. There is no way to respond to a PICs entry for this "shall".

SuggestedRemedy
Either remove the "shall" and say instead that it "is intended to meet" the requirement or provide a very specific test reference that constitutes the complete and specific testable requirements.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.1.1** *P* **62** *L* **32** # 276
Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **X**
This is not an actual test specification. Test specifications have parametric values. This only calls out test method information.

SuggestedRemedy
Add the parametric value/limit that is to be used by the test as the pass/fail limit, either directly or by reference.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.1.2** *P* **62** *L* **40** # 277
Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **X**
This is not an actual test specification. Test specifications have parametric values. This only calls out test method information.

SuggestedRemedy
Add the parametric value/limit that is to be used by the test as the pass/fail limit, either directly or by reference.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **277** Page 52 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **3**   # 278
Thompson, Geoff   GraCaSI

Comment Type **TR**   *Comment Status* **X**
a 3 bit control register"? Just any one?

SuggestedRemedy
This needs to point ot the control register specification with a hot link. Where is the register specified?

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **27**   # 279
Thompson, Geoff   GraCaSI

Comment Type **TR**   *Comment Status* **X**
This is all flim flam

SuggestedRemedy
Specify the test in such a way that it is relevant to the in use" transmit waveform and its functional requirement with fully specified test conditions. Make the test mandatory.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **45**   # 280
Thompson, Geoff   GraCaSI

Comment Type **TR**   *Comment Status* **X**
What does the term simultaneously to all transmitters" mean in this context"," i.e. only one transmitter? Is it residual text from 1000BASE-T? Or does it mean the transmitter at each end of the link. If the latter then I believe there needs to be a relati

SuggestedRemedy
Either remove this text as obsolete or provide a proper specification for the relationship between the two test clocks.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.3**   *P* **64**   *L* **19**   # 281
Thompson, Geoff   GraCaSI

Comment Type **TR**   *Comment Status* **X**
What does the term for data communications only" mean here? What else is there to consider?

SuggestedRemedy
Clarify and complete.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.3**   *P* **64**   *L* **29**   # 282
Thompson, Geoff   GraCaSI

Comment Type **TR**   *Comment Status* **X**
A high impedance" probe is called for with no specification.

SuggestedRemedy
Specify a minimum input impedance that will satisfy the "high Impedance" requirement of these tests.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.3**   *P* **65**   *L* **45**   # 283
Thompson, Geoff   GraCaSI

Comment Type **TR**   *Comment Status* **X**
The disturbing voltage is mentioned but there is no indication whatsoever in the diagrams as to where and how the disturbing voltage is to be introduced.

SuggestedRemedy
Fully specify the test.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **283**   Page 53 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:25
SORT ORDER: Comment ID

Cl **96**　　*SC* **96.6.1**　　　　　*P* **71**　　　*L* **45**　　　# 284
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **TR**　　*Comment Status* **X**
This section claims to be about M/S resolution" but it offers no specifications whatsoever about the behavior when there is actually is a conflict.

SuggestedRemedy
Specify either a resolution mechanism or at least the behavior in each situation. i.e. what happens when both are in SLAVE mode (trivial) or when both are in MASTER mode. The later needs to be multi-vendor known behavior for troubleshooting purposes.

Proposed Response　　　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　　*L* **35**　　　# 285
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
areis" appears in the text with underscore and strikeout on what is supposed to be the clean version of the draft

SuggestedRemedy
Replace "areis" with underscore and strikeout in the text with a plain text "is"

Proposed Response　　　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　　*L* **29**　　　# 286
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
Grammar. Incorrect article in the 2nd sentence

SuggestedRemedy
Change text from ...over a wire pair BI_DA." to "...over the wire pair BI_DA."

Proposed Response　　　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　　*L* **30**　　　# 287
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
Grammar. Incorrect article in the 3rd sentence.

SuggestedRemedy
Change text from The integer", n," is time index introduced..." to "The integer", n, is a time index," introduced..."

Proposed Response　　　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　　*L* **31**　　　# 288
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
The 5th sentence has generally poor grammar and convoluted construction.

SuggestedRemedy
Replace with the following: In the normal mode of operation","" the PCS Transmit generates sequences of vectors using the encoding rules defined for the idle mode when between streams of data as indicated by the parameter tx_enable."

Proposed Response　　　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **41**　　　*L* **32**　　　# 289
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **E**　　*Comment Status* **X**
The 6th sentence has generally poor grammar and missing articles

SuggestedRemedy
Replace with the following: Upon the assertion of tx_enable", the PCS Transmit function passes an SSD of 6 consecutive symbols to PMA," which replaces the first 9 bits of preamble."

Proposed Response　　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **289**

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05/01/2015 19:35:25

Cl **96**　　*SC* **96.3.2.3**　　　　　*P* **41**　　　*L* **34**　　　# `290`
Thompson, Geoff　　　　　　　GraCaSI

Comment Type　**E**　　*Comment Status*　**X**
Missing article

SuggestedRemedy
Change text from: special code ESD (or..." TO: "a special code ESD (or..."

Proposed Response　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3**　　　　　*P* **41**　　　*L* **37**　　　# `291`
Thompson, Geoff　　　　　　　GraCaSI

Comment Type　**E**　　*Comment Status*　**X**
Lines 37 to end of paragraph) Comparison text is unnecessary to the specification.
Remove comparison and simplify

SuggestedRemedy
Replace old text starting with Unlike" with the following text: "100BASE-T1 only has one special symbol pair (0", 0) that is not used by
Idle or Data symbols. Therefore, at the end of data packet," tx_error is examined to determine whether ESD3 or ERR_ESD

Proposed Response　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3**　　　　　*P* **41**　　　*L* **51**　　　# `292`
Thompson, Geoff　　　　　　　GraCaSI

Comment Type　**E**　　*Comment Status*　**X**
This doesn't seem to actually be a sentence.

SuggestedRemedy
How about: If TXMODE has the value SEND_N", PCS Transmit generates symbol An, at each symbol period, which represents data," special control symbols like SSD/ESD or IDLE symbols as defined in the following subsections."

Proposed Response　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3**　　　　　*P* **42**　　　*L* **1**　　　# `293`
Thompson, Geoff　　　　　　　GraCaSI

Comment Type　**E**　　*Comment Status*　**X**
Missing article

SuggestedRemedy
Change: transmitted symbols" TO: "the transmitted symbols"

Proposed Response　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3**　　　　　*P* **42**　　　*L* **44**　　　# `294`
Thompson, Geoff　　　　　　　GraCaSI

Comment Type　**E**　　*Comment Status*　**X**
Missing title for figure. When figures split across pages there needs to be figure titles (e.g. Figure 96-5a, Figure 96-5b) on each page.

SuggestedRemedy
Split and sub-title figure to accommodate pagination

Proposed Response　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3**　　　　　*P* **43**　　　*L* **20**　　　# `295`
Thompson, Geoff　　　　　　　GraCaSI

Comment Type　**E**　　*Comment Status*　**X**
It is preferred to have the entrace to stats be at the top and flow out the bottom or, if necessary, the sides.

SuggestedRemedy
Re do the layout of the state diagram when it is redrawn for Sponsor Ballot.

Proposed Response　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **295**　　　Page 55 of 117
05/01/2015 19:35:25

Cl **96** *SC* **96.3.3.1**   *P* **52**   *L* **37**   # 296
Thompson, Geoff   GraCaSI

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

Split last sentence in two for clarity

SuggestedRemedy

Change the text: ...error"," that are..." TO: "...error. These", in turn," are..."

Proposed Response   *Response Status* **O**

Cl **96** *SC* **96.3.3.4**   *P* **54**   *L* **32**   # 297
Thompson, Geoff   GraCaSI

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

The words as an optional feature" are redundant (per the heading) and not necessary to the this text. They just make the sentence that much more difficult to parse.

SuggestedRemedy

Delete the words: "as an optional feature" from the first sentence.

Proposed Response   *Response Status* **O**

Cl **96** *SC* **96.4**   *P* **55**   *L* **50**   # 298
Thompson, Geoff   GraCaSI

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

The text about single channel operation" seems strangely out of place here. There isn't a hint of anything other than single channel operation in the entire clause. I believe that the text is unecessary for a baseband PHY.

SuggestedRemedy

Remove the sentence: "The PMA sublayer functions apply to the use of single channel operation."

Proposed Response   *Response Status* **O**

Cl **96** *SC* **96.4.2**   *P* **57**   *L* **20**   # 299
Thompson, Geoff   GraCaSI

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

In the 3rd line of the paragraph the term signals" should be singular.

SuggestedRemedy

In the 3rd line change "signals" to "signal".

Proposed Response   *Response Status* **O**

Cl **96** *SC* **96.5.3**   *P* **64**   *L* **29**   # 300
Thompson, Geoff   GraCaSI

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

Strange symbology. I have never ever seen a digital oscilloscope with a round display.

SuggestedRemedy

Change the display representation" in the diagrams (throughout the draft) to rectangles or rectangles with rounded corners.

Proposed Response   *Response Status* **O**

Cl **00** *SC* **0**   *P* **1**   *L* **2**   # 301
Thompson, Geoff   GraCaSI

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

Says that this is an Amendment of 802.3-2012". It actually will be an amendment of 802.3-2015.

SuggestedRemedy

Assure that all references outside the clause are current wrt the revision. Update the reference on the cover page WHEN the revision goes to RevCom. Track changes of the revision to make sure they do not affect or are incorporated into the draft.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **301**   Page 56 of 117
05/01/2015 19:35:25

Cl **00** *SC* **0** *P* **2** *L* **36** # 302
Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**
Text that should accompany table is missing.

SuggestedRemedy
Add the following text: List of special symbols

The following is a list of special symbols and operators that may be used within this standard. When printing this document, this table should be checked to see that each printed symbol is appropriate for

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **4** *L* **8** # 303
Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**
Page numbering does not follow 802.3 convention as it is called out in this note. This will cause great confusion during balloting. (Note that the balloting cover letter does not address this issue.

SuggestedRemedy
Change the page numbering on all subsequent drafts so that the printed page number matches the PDF page number for the duration of the balloting process. The IEEE editor will change this as appropriate during preparation for publication after the standar

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.x** *P* **18** *L* **28** # 304
Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**
RE: PHY-Initialization" This is a descriptive explanation and specification"," not a definition.

SuggestedRemedy
Move the specification and rationale aspect to the 100BASE-T1 clause and replace this with an actual definition.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.11** *P* **22** *L* **38** # 305
Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**
Calls for insertion in 1st paragraph. First paragraph is limited to 10 Mb/s operation PHYs

SuggestedRemedy
Paragraph 3 looks like a better fit.

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1** *P* **29** *L* **9** # 306
Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**
Line" is not a defined term in 802.3

SuggestedRemedy
Replace "line" with "link segment".

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2** *P* **29** *L* **27** # 307
Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**
Title is in accurate. This subclause is not a comparison to other standards" as 1000BASE-T is"," in fact part of "this" (802.3) standard.

SuggestedRemedy
At best"," this clause should be correctly titled but in reality this subclause should not be here at all. (See next comment)

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **307** Page 57 of 117
05/01/2015 19:35:25

Cl **96**　　　*SC* **96.1.2**　　　　　*P* **29**　　　*L* **27**　　　# 308
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
This sub-clause is marketing goals text left over from pre 802.3 days. Any purposeful text here is redundant and should be moved up into the preceding sub-clause. Also it is the wrong tense.

SuggestedRemedy
Delete this sub-clause. The standard can easily stand without it.

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.1.2.3**　　　*P* **30**　　　*L* **17**　　　# 309
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
The word each" is left over from text stolen from 1000BASE-T

SuggestedRemedy
Change text to read: "...the PMA transmits over the single wire pair."

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.1**　　　　　*P* **31**　　　*L* **1**　　　# 310
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
Figure doesn't match 802.3 style and uses color without a key for what the colors mean.

SuggestedRemedy
Redraw the figure before the draft goes to Sponsor Ballot. The new figure should have boxes with corners and all of the text should be black. There is no need to color the boxes unless there is a meaning attributed to the colorization. If there is mean

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96**　　　　　*P* **29**　　　*L* **0**　　　# 311
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
Per page draft number shows as 1.1 in this clause

SuggestedRemedy
Have all pages of the draft show the same and the correct draft number.

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **Fig 96-2**　　　*P* **34**　　　*L* **1**　　　# 312
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
Figure doesn't match 802.3 style and uses color without a key for what the colors mean.

SuggestedRemedy
Redraw the figure before the draft goes to Sponsor Ballot. The new figure should have boxes with corners and all of the text should be black. There is no need to color the boxes unless there is a meaning attributed to the colorization. If there is mean

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **Fig 96-2**　　　*P* **34**　　　*L* **1**　　　# 313
Thompson, Geoff　　　　　　　GraCaSI

Comment Type **ER**　　*Comment Status* **X**
Figure isn't referred to in the text.

SuggestedRemedy
Delete the figure.

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **313**

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Cl **96**   *SC* **96.3.2.3**   *P* **41**   *L* **28**   # 314
Thompson, Geoff   GraCaSI

Comment Type **ER**   *Comment Status* **X**
This entire paragraph lacks the formatting that it should have. It appears that it was cut from elsewhere and pasted as plain text. This has removed essential information.

SuggestedRemedy
Provide/restore the essential style information for this paragraph. Especially notable is the lack of bold, italic and subscripting on the term A sub n.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **General**   *P* **0**   *L* **0**   # 315
Thompson, Geoff   GraCaSI

Comment Type **ER**   *Comment Status* **X**
The term vector" is broadly used throughout the draft. It is not a defined term in 802.3 (though I admit the term is used in earlier amendments"," it is not defined)

SuggestedRemedy
Add definition for "vector" to the main definitions clause.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.157**   *P* **2**   *L* **132**   # 316
Zimmerman, George   CME Consulting, Inc.

Comment Type **E**   *Comment Status* **X**
Text for 100BASE-T1 is identical to text for 1000BASE-T, but it takes the reader on a careful read to see there are no differences. Show the differences rather than add identical text

SuggestedRemedy
Change line 27 to read: "In 1000BASE-T and 100BASE-T1..."
Delete inserted text lines 32-36, up to "to complete a stream." (keep "and clause 96).
Change line 29 to read "GMII or MII, respectively,"
Insert "For 1000BASE-T" on line 32 so that sentence after "to complete a stream." now reads: "For 1000BASE-T these include two convolutional..."

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.163**   *P* **2**   *L* **41**   # 317
Zimmerman, George   CME Consulting, Inc.

Comment Type **E**   *Comment Status* **X**
Text for 100BASE-T1 is identical to text for 1000BASE-T, but it takes the reader on a careful read to see there are no differences. Show the differences rather than add identical text

SuggestedRemedy
Change line 38 to read: "In 1000BASE-T and 100BASE-T1..."
Change line 39 to read "GMII or MII, respectively,"
Delete inserted text lines 41-45, up to "arriving on" and insert, "or, ", and add "as appropriate." at the end of the sentence, so that line 41 reads:
"groups followed by code-groups encoded from the data octets arriving on TXD<7:0> via the GMII or TXD<3:0> via the MII, as appropriate. (See Clause 40 and Clause 96)."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2.1**   *P* **16**   *L* **5**   # 318
Zimmerman, George   CME Consulting, Inc.

Comment Type **E**   *Comment Status* **X**
Missing "a" makes text read confusing and awkward.

SuggestedRemedy
change "supports one pair twisted pair medium" to "which supports a one pair twisted pair medium"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1**   *P* **17**   *L* **1**   # 319
Zimmerman, George   CME Consulting, Inc.

Comment Type **E**   *Comment Status* **X**
Figure 96-1 (and 96-2, 96-3, 96-4, 96-12, 96-13, 96-14) - intent of the coloring of some names red and blocks filled is unclear.

SuggestedRemedy
Note purpose of color schemes or remove coloring to be consistent with other IEEE 802 standards.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **319**

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05/01/2015 19:35:25

Cl **96**　　　*SC* **96.3.2.1.1**　　　　*P* **26**　　　*L* **41**　　　# 320
Zimmerman, George　　　　　　　CME Consulting, Inc.

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

Definition of variables isn't written as a definition (tx_enable_mii and tx_error_mii)

SuggestedRemedy

replace "It is generated..." with "The tx_enable_mii variable generated..." (or tx_error_mii variable, as appropriate

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.7.1.3**　　　　*P* **59**　　　*L* **39**　　　# 321
Zimmerman, George　　　　　　　CME Consulting, Inc.

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

Write return loss equation frequency ranges in style of other clauses e.g., 1<= f < 20MHz

Same comment applies to 96.7.1.4 Mode conversion

SuggestedRemedy

see comment for remedy.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.1.2**　　　　*P* **15**　　　*L* **30**　　　# 322
Zimmerman, George　　　　　　　CME Consulting, Inc.

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

No reference is made to the most closely related PHY clause, Clause 25 - except by its common name.

SuggestedRemedy

Add sentence before line 30:
"IEEE 802.3 100BASE-TX PHY is specified in Clause 25, and it operates of two pairs of a channel comprising unshielded copper cabling or better. Like the 100BASE-T1 PHY, this PHY uses ternary signalling and interfaces to the Clause 22 MII. In contrast, the 100BASE-T1 PHY operates using full-duplex communications (using echo cancellation) over a single twisted pair channel.
(then continue with existing statement about 1000BASE-T...

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.1.3**　　　　*P* **16**　　　*L* **30**　　　# 323
Zimmerman, George　　　　　　　CME Consulting, Inc.

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

the text in this clause and 96.1.4 looks like it is an instruction to the editor to insert, or a placeholder.
there are no explicit notational definitions that I can easily find in the referenced clause.

SuggestedRemedy

Change line 30 to read:
"The notation used in the state diagram follows the conventions of 21.5". (which is what other IEEE 802 clauses read).

Similarly address 96.1.4, line 35.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.2**　　　　*P* **18**　　　*L* **3**　　　# 324
Zimmerman, George　　　　　　　CME Consulting, Inc.

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

Language is inconsistent with that of standards requirements.

This same general comment applies to 96.3.1, 96.3.2.4.1, 96.3.2.4.2, 96.3.3.3, 96.4.1

SuggestedRemedy

In 96.2, replace "adopts the service primitives.." with "shall use the service primitives in"

Similarly edit other referenced clauses.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.3.2.2.1**　　　*P* **27**　　　*L* **8**　　　# 325
Zimmerman, George　　　　　　　CME Consulting, Inc.

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

"could be" is improper language for a standards implementation option (used 3 times)

SuggestedRemedy

Replace "could be" with "may be" (2 places in 96.3.2.2.1, one in 96.3.2.2.2)

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **325**　　　Page 60 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.3.3.1**   *P* **37**   *L* **1**   # 326
Zimmerman, George   CME Consulting, Inc.
Comment Type **ER**   *Comment Status* **X**
Figure 96-9 text is too small to be readable
SuggestedRemedy
Redraw or scale so that font is consistent with 802.3 style and readable.
Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.4.1**   *P* **52**   *L* **32**   # 327
Zimmerman, George   CME Consulting, Inc.
Comment Type **ER**   *Comment Status* **X**
MATLAB is a registered trademark of The Mathworks, Inc.
SuggestedRemedy
Mark and reference trademark.
Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.4.5**   *P* **56**   *L* **33**   # 328
Zimmerman, George   CME Consulting, Inc.
Comment Type **ER**   *Comment Status* **X**
table implies other modes, in confusing and difficult to read style.
Same comment applies for 96.5.5.2, Receiver Frequency tolerance
SuggestedRemedy
write the requirement inline in the sentence above, appending it after "within the range " to read (for each of 96.5.4.5 and 96.5.5.2):
"within the range 66.666 MHz +/- 100 ppm."
Delete tables
Proposed Response   *Response Status* **O**

Cl **96A**   *SC*   *P* **65**   *L* **13**   # 329
Zimmerman, George   CME Consulting, Inc.
Comment Type **ER**   *Comment Status* **X**
Comments about "Typical standard Ethernet PHYs" seem general and not related to this PHY.
SuggestedRemedy
Delete Sentence beginning with "Typical standard Ethernet", and replace "So, PHY control settings..." with "100BASE-T1 PHY control settings..."
Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **15**   *L* **45**   # 330
Zimmerman, George   CME Consulting, Inc.
Comment Type **T**   *Comment Status* **X**
Echo cancellation isn't necessarily the only way to do full duplex communication, and the text implies it is.
SuggestedRemedy
Change, "and therefore echo cancellation" to "utilizing echo cancellation".
Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.377**   *P* **3**   *L* **43**   # 331
Zimmerman, George   CME Consulting, Inc.
Comment Type **TR**   *Comment Status* **X**
Break in sentences breaks the link between the description of SSD code groups and 100BASE-T1 and makes it generic - statement shoudl only apply to 100BASE-T1.
SuggestedRemedy
Modify line 43, either by:
Replacing,"onto MDI. SSD consists..." with "onto MDI, so that the SSD consists..." (preferable)
or:
Insert, "For 100BASE-T1" prior to "SSD consists", (acceptable, but not preferred)
Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID   *Comment ID* **331**   Page 61 of 117
05/01/2015 19:35:25

Cl **96**　　*SC* **96.2**　　　　　*P* **18**　　*L* **13**　　　# 332
Zimmerman, George　　　　　CME Consulting, Inc.

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

FORCE mode is used without definition or pointer to section describing what it is. While the concept appears clear, using it as a name of a mode, should have a pointer to the mode. It appears that the best definition is in 96.4.4.

SuggestedRemedy

Add cross-reference to end of line 13, after "FORCE mode". (e.g., See Clause 96.4.4)

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.5.5.3**　　　*P* **57**　　*L* **11**　　　# 333
Zimmerman, George　　　　　CME Consulting, Inc.

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

Alien crosstalk is poorly represented by discrete-level ternary signals, due to the diverse coupling between link segments. The test is inadequate.
Additionally, the noise source is specified as a Broad-R Reach, which is a trademarked, non-referenced source.

SuggestedRemedy

Replace noise source with a 66 MHz gaussian noise source, see clause 55 for an example configuration.

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.3.3.1.3**　　*P* **40**　　*L* **4**　　　# 334
Zimmerman, George　　　　　CME Consulting, Inc.

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

Notation - is 36K +/- 1.8K 36*1024 +/- 1.8*1024 or is it * 1000?

SuggestedRemedy

write out numbers (e.g., 36000 +/- 1800)

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.4.4**　　　　*P* **44**　　*L* **26**　　　# 335
Zimmerman, George　　　　　CME Consulting, Inc.

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

Figure 96-15 doesn't "illustrate" the PHY control, it is the PHY control state diagram. The requirement to comply with the state machine is missing as a result of this language.

same thing for link monitor state machine 96-16.

SuggestedRemedy

Insert, "PHY Control shall comply with the state diagram description given in Figure 96–15."
(same for link monitor, Figure 96-16, on page 46, line 40)

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.5.3**　　　　*P* **51**　　*L* **48**　　　# 336
Zimmerman, George　　　　　CME Consulting, Inc.

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

Is "the generator of the disturbing signal must have sufficient linearity and range..." - is this stating a requirement on the test fixture? if so, it needs further definition.

SuggestedRemedy

change "must have" to "shall have", and define "sufficient linearity and range" as well as "appreciable distortion" in measurable terms

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.7.1.2**　　　*P* **59**　　*L* **22**　　　# 337
Zimmerman, George　　　　　CME Consulting, Inc.

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

Is it really OK to leave the insertion loss undefined between these discrete frequency points? For example, you could have a 30 dB notch between 10 MHz and 33 MHz the way this is defined.

SuggestedRemedy

Write channel insertion loss requirement in equation form similar to other clauses.

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **337**　　　Page 62 of 117
05/01/2015 19:35:25

IEEE P802.3bw D1.2 100BASE-T1 Initial Working Group ballot comments

Cl **96** *SC* **96.10.3** *P* **63** *L* **2** # 338
Zimmerman, George CME Consulting, Inc.

Comment Type **TR** *Comment Status* **X**
PICS are blank

SuggestedRemedy
Write, fill in and check PICS

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2.3** *P* **16** *L* **17** # 339
Zinner, Helge Robert Bosch GmbH

Comment Type **E** *Comment Status* **X**
each wire pair

SuggestedRemedy
underlines should be removed

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.4** *P* **45** *L* **22** # 340
Zinner, Helge Robert Bosch GmbH

Comment Type **E** *Comment Status* **X**
Line: 22,23,34
some items marked with '*' but '*' is not explained on this page

SuggestedRemedy
explain the meaning of '*'

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.4** *P* **45** *L* **6** # 341
Zinner, Helge Robert Bosch GmbH

Comment Type **E** *Comment Status* **X**
Brand name 'BroadR-Reach' should be removed

SuggestedRemedy
change name to 100BASE-T1

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.5** *P* **46** *L* **23** # 342
Zinner, Helge Robert Bosch GmbH

Comment Type **E** *Comment Status* **X**
Line: 23,33
some items marked with '*' but '*' is not explained on this page

SuggestedRemedy
explain the meaning of '*'

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.4.2** *P* *L* # 343
Zinner, Helge Robert Bosch GmbH

Comment Type **E** *Comment Status* **X**
some items are colored - but color won't help here

SuggestedRemedy
rewrite text in black letters

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.4.2** *P* **53** *L* **6** # 344
Zinner, Helge Robert Bosch GmbH

Comment Type **E** *Comment Status* **X**
Line: 6,7,11,20,25,26,30,32
some items are colored - but color won't help here

SuggestedRemedy
rewrite text in black letters

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **344** Page 63 of 117
05/01/2015 19:35:25

Cl **96**　　　*SC* **96.5.4.4**　　　　　*P* **55**　　　*L* **27**　　　# 345
Zinner, Helge　　　　　　　　　Robert Bosch GmbH

Comment Type　**E**　　　*Comment Status*　**X**
　right lower table box is empty, just a '-'

SuggestedRemedy
　value is missing or note that this is intended to be blank

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.1.2.3**　　　　　*P* **30**　　　*L* **17**　　　# 346
Slavick, Jeff　　　　　　　　　Avago Technologies

Comment Type　**E**　　　*Comment Status*　**X**
　Extra _ characters present.

SuggestedRemedy
　Remove the underscore before each and the underscore after pair

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.3.3.1**　　　　　*P* **51**　　　*L* **9**　　　# 347
Slavick, Jeff　　　　　　　　　Avago Technologies

Comment Type　**E**　　　*Comment Status*　**X**
　Two == signs instead of a combined = charcter

SuggestedRemedy
　Convert the == into the single wider = sign in the mii_fc_err <== assignment

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.10**　　　　　*P* **77**　　　*L* **1**　　　# 348
Slavick, Jeff　　　　　　　　　Avago Technologies

Comment Type　**TR**　　　*Comment Status*　**X**
　Missing PICS for 4B3B encoding

SuggestedRemedy
　Add PICS

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.10**　　　　　*P* **77**　　　*L* **1**　　　# 349
Slavick, Jeff　　　　　　　　　Avago Technologies

Comment Type　**TR**　　　*Comment Status*　**X**
　Missing PICS for Tx stuff bits

SuggestedRemedy
　Add missing PICS

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.10**　　　　　*P* **77**　　　*L* **1**　　　# 350
Slavick, Jeff　　　　　　　　　Avago Technologies

Comment Type　**TR**　　　*Comment Status*　**X**
　Missing PICS for ignore of stuff bits by Rx

SuggestedRemedy
　Add missing PICS

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.10**　　　　　*P* **77**　　　*L* **1**　　　# 351
Slavick, Jeff　　　　　　　　　Avago Technologies

Comment Type　**TR**　　　*Comment Status*　**X**
　Missing PICS for tx_error transmission

SuggestedRemedy
　Add missing PICS

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.10**　　　　　*P* **77**　　　*L* **1**　　　# 352
Slavick, Jeff　　　　　　　　　Avago Technologies

Comment Type　**TR**　　　*Comment Status*　**X**
　Missing PICS for scrambler

SuggestedRemedy
　Add missing PICS

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **352**　　　Page 64 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.10**   *P* **77**   *L* **1**   # 353

Slavick, Jeff   Avago Technologies

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

Missing PICS for rx de-scrambler

SuggestedRemedy

Add missing PICS

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.10**   *P* **77**   *L* **1**   # 354

Slavick, Jeff   Avago Technologies

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

Missing PICS for 3B4B decoding

SuggestedRemedy

Add missing PICS

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.10**   *P* **77**   *L* **1**   # 355

Slavick, Jeff   Avago Technologies

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

Missing PICS for PMA electrical requirements

SuggestedRemedy

Add missing PICS

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.1**   *P* **29**   *L* **16**   # 356

D'Ambrosia, John   Dell

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

The "Objectives" sub-clause should be removed. It is relevant to the 802.3bw project, but becomes dated once put into the 802.3 standard, especially if any new projects modify this text.

SuggestedRemedy

Delete 96.1.1

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P* **29**   *L* **1**   # 357

D'Ambrosia, John   Dell

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

The document should be written in accordance with accepted norms today.

SuggestedRemedy

REview the form of the draft in relation to recently approved specifications. other commments will address specific items.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1**   *P* **29**   *L* **1**   # 358

D'Ambrosia, John   Dell

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

the document does not contain a Architectural Positioning Diagram. Other 100BASE-T documents include. See Fig 21-1.

SuggestedRemedy

Create an architectural positioning diagram. Refer to Figure 21-1.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **358**   Page 65 of 117
05/01/2015 19:35:25

Cl **96**   *SC*   *P* **29**   *L* **1**   # 359
D'Ambrosia, John   Dell

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

Clause 96 appears to contain everything related to the PHY (outside of management). Therefore, there is no reason to do a clause correlation diagram such as Table 80-2. However, such a table is very useful to help the reader quickly understand what things are Mandatory or optional.

SuggestedRemedy

add a table similar in nature to 80-2 that looks at the various layers / key sections and states what is optional, mandatory, or applicable.

Proposed Response   *Response Status* **O**

Cl **39**   *SC* **96.3**   *P* **39**   *L* **1**   # 360
D'Ambrosia, John   Dell

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

colored diagrams? Not aware off top of head of any others. Fig 96-3

SuggestedRemedy

Consult styld guide

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P*   *L*   # 361
D'Ambrosia, John   Dell

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

use of color text / figures? Is this permitted? However, regardless, user may print out in black/white which then means color will not necessarily communicate its intended message.

SuggestedRemedy

Consult style guide. Remove all color

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.10**   *P* **76**   *L* **1**   # 362
D'Ambrosia, John   Dell

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

I found 89 instances of the word "shall"
no entries in PICS section,a nd not clear even all sections with normative requiremsnts are even there

SuggestedRemedy

Fill in pics supporting normative shall statements in text.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96**   *P* **29**   *L* **1**   # 363
D'Ambrosia, John   Dell

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

No subclauses related to Reconciliation Sublayer and MII are provided at all. The MII specification is called out in 96.2 - this makes it more difficult to find. the supporting statement for MII i found is not normative.

SuggestedRemedy

Create clauses addressing these topics. Copy and modify appropriate text from 21.1.1

The 100BASE-T1 PHY SHALL use the Media Independent Interface (MII) as specified in Clause 22.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **363**   Page 66 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:25
SORT ORDER: Comment ID

Cl **96**   *SC*   *P* **29**   *L* **1**   # 364
D'Ambrosia, John   Dell

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

The objectives state -
The resulting standard will not preclude single pair auto-negotiation.\

Yet there are no statements at all in the document

Given that there are two variants of xBASE-T1 being created within 802.3 at this time, it is
envisioned that subsystems could be updated in the future from one speeed to another.
Only two inferences to autno-negotiation are made -

P18, Line 30, as part of a definition.
P32 Line 11 - see text
c) The 100BASE-T1 PHY does not use auto-negotiation due to associated latency that
does not meet start-up time requirements of automotive networks. The 100BASE-T1 PHY
MASTER-SLAVE relationship is set by FORCE mode.

It appears that auto-negotiation is not being addressed, but then a limit is placed on it.
Further, what stops someone from adding an AN scheme that would not meet the latnecy
requirements?

Left undefined, this is going to create interoperability concerns.

SuggestedRemedy

specific text needs to be added to address auto-negotiation.
suggest that text includes a SHALL statement that places a latency restriction on AN
schemes in order to meet the start-up time requirements of automotive networks.

Proposed Response   *Response Status* **O**

Cl **96B**   *SC*   *P* **81**   *L* **1**   # 365
D'Ambrosia, John   Dell

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

This text seems to imply a test mode. Is it normative requirement for PHY? This reads
like a feature, as opposed to some statement whether it needs to be supported or not.
Only two inferences found in the document of this text.

SuggestedRemedy

Specify whether these test modes are required and normative

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **Table 45-2003**   *P* **26**   *L* **29**   # 366
Lusted, Kent   Intel

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

typo in "configre PHY as SLAVE"

SuggestedRemedy

change configre to configure

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **Table 45-2003**   *P* **26**   *L* **28**   # 367
Lusted, Kent   Intel

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

Table 45-2003 lists the bit definitions for normal operation plus test modes 1-7. However,
Table 96-4 only defines normal operation and test modes 1-5.

SuggestedRemedy

Change Table 45-2003 entries for test modes 6-7 to align with Table 96-4

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.1**   *P* **29**   *L* **20**   # 368
Lusted, Kent   Intel

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

font of items in alphabetic list are different from the rest of the text.

SuggestedRemedy

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **368**   Page 67 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.1.2**   *P* **29**   *L* **45**   # 369
Lusted, Kent   Intel

Comment Type   **E**   *Comment Status* **X**
  font of items in alphabetic list are different from the rest of the text.

SuggestedRemedy

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **Figure 96-15**   *P* **59**   *L* **5**   # 370
Lusted, Kent   Intel

Comment Type   **E**   *Comment Status* **X**
  The term BroadR-Reach is used but not defined anywhere. Perhaps this is supposed to be
  100BASE-T1?

SuggestedRemedy
  Change if necessary

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **Figure 96-23**   *P* **71**   *L* **32**   # 371
Lusted, Kent   Intel

Comment Type   **E**   *Comment Status* **X**
  The term BroadR-Reach is used but not defined anywhere. Perhaps this is supposed to be
  100BASE-T1?

SuggestedRemedy
  Change if necessary

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.4.2**   *P* **67**   *L* **1**   # 372
Lusted, Kent   Intel

Comment Type   **E**   *Comment Status* **X**
  Matlab code needs a copyright release foot note.

  See Clause 68.6.6.2 in the IEEE Std. 802.3-2012 for an example.

SuggestedRemedy
  Add it

Proposed Response   *Response Status* **O**

Cl **96.8.**   *SC* **96.8.2.1**   *P* **60**   *L* **50**   # 373
Matola, Larry   Delphi

Comment Type   **E**   *Comment Status* **X**
  Characteristic impedance of any mated in-line connectors shall be 100 ohm +/-10%
  measured with TDR and rise-time set
  not slower than 700 psec.

  Section refers to MDI connector and text says in-line

SuggestedRemedy
  Characteristic impedance of any mated MDI connectors shall be 100 ohm +/-10%
  measured with TDR and rise-time set
  not slower than 700 psec.

Proposed Response   *Response Status* **O**

Cl **96.1**   *SC* **N/A**   *P* **15**   *L* **10**   # 374
Matola, Larry   Delphi

Comment Type   **E**   *Comment Status* **X**
  interface over one pair of UTP cable

  UTP (Abbreviation) is used before it is identified

SuggestedRemedy
  over one pair unshielded twisted pair (UTP) cable.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID   *Comment ID* **374**   Page 68 of 117
05/01/2015 19:35:25

Cl **96.1**   *SC* **96.1.1**   *P* **15**   *L* **20**   # 375
Matola, Larry   Delphi

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

over one pair unshielded twisted pair
(UTP) or better cable

Definition of UTP is moved to line 10
Why the need for or better?

SuggestedRemedy

over one pair (UTP) cable

Proposed Response   *Response Status* **O**

Cl **96.1**   *SC* **96.1.2.2**   *P* **16**   *L* **9**   # 376
Matola, Larry   Delphi

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

onto the balanced one pair twisted pair cable medium

Consistancy on name of cable

SuggestedRemedy

onto the balanced one pair UTP cable

Proposed Response   *Response Status* **O**

Cl **96.7**   *SC* **96.7.1**   *P* **59**   *L* **1**   # 377
Matola, Larry   Delphi

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

1-pair UTP cable
Consistancy

SuggestedRemedy

one pair UTP cable

Proposed Response   *Response Status* **O**

Cl **1.4**   *SC* **multiple**   *P* **2-3**   *L*   # 378
Matola, Larry   Delphi

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

Some definitions are Bold text others not

SuggestedRemedy

Consistancy make all the same

Proposed Response   *Response Status* **O**

Cl **1.4**   *SC*   *P* **4**   *L* **18**   # 379
Matola, Larry   Delphi

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

1.4.x Automotive Cabling: Balanced 100 ohm one pair cable and associated hardware
having specified transmission characteristics are provided in 96.7.1.

UTP is not mentioned in Definition

SuggestedRemedy

1.4.x Automotive Cabling: Balanced 100 ohm one pair unshielded twisted pair(UTP) cable
and associated hardware having specified transmission characteristics are provided in
96.7.1.

Proposed Response   *Response Status* **O**

Cl **Previ**   *SC*   *P*   *L*   # 380
Matola, Larry   Delphi

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

over one pair unshielded twisted pair(UTP) cable

Since this is the Automotive Spec would it be proper to refer to UTP cable as Automotive
cable per our definition This replacement occurs multiple places reference my comments 3-
6

SuggestedRemedy

over one pair Automotive cable

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **380**   Page 69 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:25
SORT ORDER: Comment ID

Cl **96.8.**   *SC*   *P* **50**   *L* **42**   # 381

Matola, Larry   Delphi

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

The section states "The MDI connector mated with a specified one pair UTP cable connector shall meet the electrical requirements specified
in Table 96.7.1."
then sub clause 96.8.2.1 and 96.8.2.2 call out specific MDI Characteristic Impedance and Return Loss values.
This seems like redundant information since it is also found above

SuggestedRemedy

Delete sub clause 96.8.2.1 and 96.8.2.2

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **0**   *P* **0**   *L* **0**   # 382

Hajduczenia, Marek   Bright House Network

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

Draft does not follow the accepted 802.3 template. Primate examples: page 2, page 96 onwards (plenty of empty lines, wrong paragraph styles, wrong symbols resultign from direct copy&paste of text - for example page 30, line 18).

SuggestedRemedy

Apply proper styles to the text and fix all *editorial* inconsistencies within the draft relative to the official 802.3 draft template

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.315**   *P* **17**   *L* **24**   # 383

Hajduczenia, Marek   Bright House Network

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

The comparison between 1.4.315 in 802.3-2013 and 1.4.315 in draft D1.2 shows there are more changes than marked in the draft right now.

SuggestedRemedy

Insert the word ",and" between "66" and "83" and show it in strikethrough.
Review the remaining definitions in 1.4 and:
a) copy text from 802.3-2012 as base line
b) show all text to be removed in strikethrough
c) show all new text in underline
The purpose of editorial instructions is to make staff editor aware of what changes need to be done (removals, additions) and the lack of complete editorial instructions will lead to incorrect merging of P802.3bw into base standard.

Proposed Response   *Response Status* **O**

Cl **99**   *SC* **99**   *P* **19**   *L* **1**   # 384

Hajduczenia, Marek   Bright House Network

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

FAIL - Notes for editors (not to be included in the published draft)

SuggestedRemedy

Such stuff is to be removed prior to publication, even within the Workging Group

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.3.2.1.2**   *P* **22**   *L* **12**   # 385

Hajduczenia, Marek   Bright House Network

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

Editing instruction is incorrect: Change entry in APPROPRIATE SYNTAX as follows:. It is not clear what change is being made and where the entry is added.

SuggestedRemedy

Provide clear editorial instruction indicating clearly where the new entry is added: at the end, between some other items, etc. ? Same for 30.3.2.1.3, 30.5.1.1.2. Look at 802.3bm for proper instructions for such changes.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **385**   Page 70 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:25
SORT ORDER: Comment ID

Cl **45**   *SC* **45.2.1.10**   *P* **26**   *L* **6**   # 386
Hajduczenia, Marek   Bright House Network

Comment Type **ER**   *Comment Status* **X**
Changes to Table 45–13 shouw show a row for registers 1.11.15:11, with 11 in strikethrough and 12 in underline and then show extra row with new content you propose, all content underlined as newly inserted.

SuggestedRemedy
Per comment

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.183**   *P* **17**   *L* **1**   # 387
Hajduczenia, Marek   Bright House Network

Comment Type **T**   *Comment Status* **X**
"this delineates data transmission from idle" - unclear what "this" means in this context.

SuggestedRemedy
Replace "this" to "the ESD"

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **17**   *L* **15**   # 388
Hajduczenia, Marek   Bright House Network

Comment Type **T**   *Comment Status* **X**
Not sure what is wrong with the definitions in lines 15-33 and why they were not inserted into the list already with the proper numbering.

SuggestedRemedy
a) remove definition in line 15 - seems like garbage
b) add numbers for definitions in lines 17 - 33 and insert them into the list already in place above.
c) confirm that addigned numbers to definitions 1.4.142 through 1.4.385 are correct - it seems they displace existing definitions and should be added behind existing definitions. See 802.3bm for an example of how definitions are added to existing lists

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1**   *P* **24**   *L* **12**   # 389
Hajduczenia, Marek   Bright House Network

Comment Type **T**   *Comment Status* **X**
Is there any specific reason why we need to chop register space into pieces for just three registers? Why not place them at 1.1810 through 1813 or if some separation is required, start from 1.1820 though 1823.

SuggestedRemedy
Change register assignment to 1.1810 through 1813 or if some separation is required, start from 1.1820 though 1823.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.1**   *P* **24**   *L* **29**   # 390
Hajduczenia, Marek   Bright House Network

Comment Type **T**   *Comment Status* **X**
There are no changes shown in Table 45–4 as far as I can tell.

SuggestedRemedy
Either show changes to 45.2.1.1 or remove this subclause altogheter.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001**   *P* **26**   *L* **32**   # 391
Hajduczenia, Marek   Bright House Network

Comment Type **T**   *Comment Status* **X**
Missing description for bits 1.2100.3:0

SuggestedRemedy
Please add a subclause with description of bits 1.2100.3:0

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **391**   Page 71 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:25
SORT ORDER: Comment ID

Cl **45**   *SC* **45.2.1.2002**   *P* **27**   *L* **8**   # 392
Hajduczenia, Marek   Bright House Network

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

Table 45–2002 does not show all other bits in this register as reserved. Please add the neccessary markup.

SuggestedRemedy

Per comment

Proposed Response   *Response Status* **O**

Cl **Annex**   *SC* **Annex 96B**   *P* **81**   *L* **1**   # 393
Hajduczenia, Marek   Bright House Network

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

It is not clear whether these two loopback modes are specific to 100BASE-T1 or they would be shared by other PHYs. I know for a fact that smilar loopback modes are supported by other PHYs, so if there is really a need for such text, it should be made PHY independent.

SuggestedRemedy

Either make this text PHY independent (and applicable to any PHY type) or remove this Annex altogether.

Proposed Response   *Response Status* **O**

Cl **Annex**   *SC* **Annex 96A**   *P* **79**   *L* **1**   # 394
Hajduczenia, Marek   Bright House Network

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

The purpose of this Annex evades me. MDIO is a pervasive management interface for all 802.3 PHYs and the text included in Annex 96A right now neither add anything new, nor justify the need for a separate Annex for this brief statement

SuggestedRemedy

Remove this Annex in the current form. If anything specific to management is needed, we have 802.3.1 for this purpose (MIB definition).

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.142**   *P* **16**   *L* **23**   # 395
Hajduczenia, Marek   Bright House Network

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

"For 100BASE-T1, A set of ternary " should likely be "For 100BASE-T1, a set of ternary " - note the unnecessary capital "A"

SuggestedRemedy

Per comment

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.142**   *P* **16**   *L* **25**   # 396
Hajduczenia, Marek   Bright House Network

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

missing serial comma in "Clause 23, Clause 24, Clause 32, Clause 36, Clause 40 and Clause 96" before the last "and" - see for more details: http://grammar.about.com/od/grammarfaq/f/QAoxfordcomma.htm

SuggestedRemedy

Change "Clause 23, Clause 24, Clause 32, Clause 36, Clause 40 and Clause 96" to "Clause 23, Clause 24, Clause 32, Clause 36, Clause 40, and Clause 96"
Scrub all definitions in 1.4.xxx for missing serial comma (there are at least 5 instances I came across).

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.157**   *P* **16**   *L* **32**   # 397
Hajduczenia, Marek   Bright House Network

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

Incorrect link to Clause 96 in text "(See Clause 40 and Clause 96.)". Currently link points to Clause 200 and should to Clause 96.

SuggestedRemedy

Fix the broken link

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **397**   Page 72 of 117
05/01/2015 19:35:25

Cl **01**   *SC* **1.4.183**   *P* **17**   *L* **3**   # 398
Hajduczenia, Marek   Bright House Network

Comment Type **E**   *Comment Status* **X**
"Clause 96" was likely added in this draft - it does not exist in 802.3-2012 for sure

SuggestedRemedy
Add proper editorial markup to indicate changes from base standard.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.313**   *P* **17**   *L* **10**   # 399
Hajduczenia, Marek   Bright House Network

Comment Type **E**   *Comment Status* **X**
"and and Clause 96" - unnerecessary repetition of "and"

SuggestedRemedy
Remove one instance of "and" - likely, the one without underline markup

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.5.1.1.11**   *P* **22**   *L* **39**   # 400
Hajduczenia, Marek   Bright House Network

Comment Type **E**   *Comment Status* **X**
Wrong editorial instruction: Change the first paragraph in BEHAVIOUR DEFINED AS section of 30.5.1.1.11 as follows:

SuggestedRemedy
Likely, the intent is to add the statement at the end of the existing description, and not change the whole existing description to the shown text. Please clarify and fix the editorial instruction

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.7.4**   *P* **25**   *L* **1**   # 401
Hajduczenia, Marek   Bright House Network

Comment Type **E**   *Comment Status* **X**
Editing instructions in 45.2.1.7.4 and 45.2.1.7.5 do not indicate where the new content is inderted - at the end of the table, beginning of the table, somewhere in between existing items?

SuggestedRemedy
Clarify the editorial instructions in both subclauses.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001**   *P* **26**   *L* **17**   # 402
Hajduczenia, Marek   Bright House Network

Comment Type **E**   *Comment Status* **X**
45.2.1.2001 is not really a correct number. Looking at the recent drafts, I believe the correct number is 45.2.1.107 onwards - no other project is adding at this time anything to the end of 45.2.1.xxx.

SuggestedRemedy
Fix numbers for subclauses 45.2.1.2001, 45.2.1.2002, 45.2.1.2003

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001.1**   *P* **26**   *L* **42**   # 403
Hajduczenia, Marek   Bright House Network

Comment Type **E**   *Comment Status* **X**
Seems that two sentences were merged together: "Bit 1.2100.15 is set to one in order to indicate MASTER-SLAVE config value bit 1.2100.14 is used to deter
mine if the PMA/PMD operates as MASTER or SLAVE" - split them accordingly to make two sentences.

SuggestedRemedy
Per comment

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **403**   Page 73 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.3.2.4.10**   *P* **50**   *L* **24**   # 404
Tazebay, Mehmet   Broadcom

Comment Type **E**   *Comment Status* **X**
"DATA" is capitalized and it should be all lower case.

SuggestedRemedy
Change "... The ESD (after one DATA packet) ..." to "... The ESD (after one data packet) ..."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4**   *P* **55**   *L* **44**   # 405
Tazebay, Mehmet   Broadcom

Comment Type **E**   *Comment Status* **X**
In 96.4 (page 55 line 44-48), the statement suggests a time domain template for the 100BASE-T1 PHY but as the TX PSD is defined rather than a template, the statement must be revised.

SuggestedRemedy
Change "..PAM3 which is a voltage..." to "... PAM3 which is an amplitude ..."

Change "3 discrete differential voltage levels [-1, 0, +1] volts." to "3 discrete differential signal levels [-1, 0, +1].".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.4**   *P* **45**   *L* **5**   # 406
Tazebay, Mehmet   Broadcom

Comment Type **E**   *Comment Status* **X**
Figure 96-15 PHY Control State Diagram, "BroadR-Reach" should be removed.

SuggestedRemedy
Remove "BroadR-Reach" in Figure 96-14. The file Phycontrolstatediagram_fig96_15.vsd is attached.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.5.3**   *P* **71**   *L* **32**   # 407
Tazebay, Mehmet   Broadcom

Comment Type **E**   *Comment Status* **X**
In 96.5.5.3 (page 71 line 32, 34), "NOISE SOURCE .." should be lower case and "BroadR-Reach 100Mbps" should be changed to "100BASE-T1"

SuggestedRemedy
Change "NOISE SOURCE (BroadR-Reach 100Mbps COMPLIANT TRANSMITTER SENDING IDLES NONSYNCHRONOUS TO THE BroadR-Reach TRANSMITTER UNDER TEST
to " Noise source (100BASE-T1 compliant transmitter sending idles nonsynchronous to the 100BASE-T1 transmitter under test)"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **36**   # 408
Tazebay, Mehmet   Broadcom

Comment Type **E**   *Comment Status* **X**
There is a typo for "gs1" as it should be g(x)

SuggestedRemedy
Change "gs1" to "g(x)

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **63**   *L* **45**   # 409
Tazebay, Mehmet   Broadcom

Comment Type **E**   *Comment Status* **X**
The statement "The ternary symbol sequence shall be presented simultaneously to all transmitters." is not applicable to single pair operation

SuggestedRemedy
Remove "The ternary symbol sequence shall be presented simultaneously to all transmitters."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID   *Comment ID* **409**   Page 74 of 117
05/01/2015 19:35:25

Cl **96**　　*SC* **96.5.4**　　　　*P* **66**　　*L* **2**　　# 410
Tazebay, Mehmet　　　　　　　Broadcom

Comment Type　**E**　　*Comment Status*　**X**
The word "each" is not redundant in "to each transmitter output"

SuggestedRemedy
Change "... to each transmitter output." to "... to the transmitter output."

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.5.4.4**　　　*P* **69**　　*L* **5**　　# 411
Tazebay, Mehmet　　　　　　　Broadcom

Comment Type　**E**　　*Comment Status*　**X**
In 96.5.4.4 (page 69 line 5, 6), the statement suggest a time domain template but 100BASE-T1 specifies TX PSD in order to provide the best flexibility for signal spectrum control for EMC. Therefore, any statement regarding to "voltage levels" must be removed.

SuggestedRemedy
Change "... to 3 discrete differential voltage levels [-1, 0, +1] volts correspondingly. Other than that, the time domain templates for voltage levels ..."
to "to 3 discrete differential signal levels. The time domain templates for signal levels ..."

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.7.1**　　　*P* **72**　　*L* **51**　　# 412
Tazebay, Mehmet　　　　　　　Broadcom

Comment Type　**E**　　*Comment Status*　**X**
33.In 96.7.1 (page 72 line 51, 53), "The cabling system used in Figure 96-24 to support" and "The cabling system components used in Figure 96-24 comprise 1-pair UTP cables up to 15m length" are repetition and redundant.

SuggestedRemedy
Remove "The cabling system used in Figure 96-24 to support"
and
Remove "The cabling system components used in Figure 96-24 comprise 1-pair UTP cables up to 15m length."

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.7.1.2**　　　*P* **73**　　*L* **31**　　# 413
Tazebay, Mehmet　　　　　　　Broadcom

Comment Type　**E**　　*Comment Status*　**X**
In 96.7.1.2 (page 73 line 31, 32), "This insertion loss includes the attenuation of the balanced 1-pair UTP cabling pair, equipment cables and connector losses." is not redundant

SuggestedRemedy
Remove "This insertion loss includes the attenuation of the balanced 1-pair UTP cabling pair, equipment cables and connector losses."

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.7.1.3**　　　*P* **59**　　*L* **37**　　# 414
Tazebay, Mehmet　　　　　　　Broadcom

Comment Type　**E**　　*Comment Status*　**X**
There is an extra "shall" in "The return loss shall of the link segment in Figure 96-24 shall meet ..." which needs to be removed

SuggestedRemedy
Remove the first shall after "The return loss"

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **96.7.2**　　　*P* **74**　　*L* **23**　　# 415
Tazebay, Mehmet　　　　　　　Broadcom

Comment Type　**E**　　*Comment Status*　**X**
"(NEXT/FEXT) should be "(ANEXT and AFEXT)" as the alien XTALK is being discussed.

SuggestedRemedy
Change "(NEXT/FEXT)" to "(ANEXT and AFEXT)

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **415**　　Page 75 of 117
05/01/2015 19:35:25

Cl **96**   *SC* **96.7.2**   *P* **74**   *L* **25**   # 416
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status* **X**
   439.In 96.7.2 (page 74 line 24, 25), there is an unnecessary date inserted in the text.

SuggestedRemedy
   Remove "6 November 2014"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2**   *P* **74**   *L* **45**   # 417
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status* **X**
   Wrong table reference in "Table 96.7.1"

SuggestedRemedy
   Change "Table 96.7.1" to "Table 96.7"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.5.2**   *P* **71**   *L* **4**   # 418
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status* **X**
   In 96.5.5.2 (page 71 line 4, 7, 8), there is no need for a table and symbol rate should be
   changed to Mbaud instead of MHz. This section needs to revised

SuggestedRemedy
   Remove tne table.
   Change "The receiver shall properly receive incoming data with a symbol rate within the
   range:"
   to "The receiver shall properly receive incoming data with a symbol rate within the range: of
   66.666 MBd ± 100 ppm."

Proposed Response   *Response Status* **O**

Cl **96**   *SC*   *P* **12**   *L* **54**   # 419
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status* **X**
   "TXMODE" needs to be replaced with "tx_mode" in order to stay consistent.
    1.In Contents, (page 12, line 54) and (page 13, line 1, 4 and 5)
    2.In 96.3.2.2.2 (page 41, line 29, 44, 47, 51)
    3.In 96.3.2.4.6 (page 48, line 7, 34, 38) and (page 49, line 3, 17, 37, 40)

SuggestedRemedy
   Change "TXMODE" to "tx_mode".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **1.4**   *P* **16**   *L* **23**   # 420
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status* **X**
   The term "PAM3" is redundant in "A set of ternary PAM3
   symbols ..." and it is better to delete it.

SuggestedRemedy
   Change "For 100BASE-T1. A set of ternary PAM3 symbols ..." to "For 100BASE-T1, a set
   of ternary symbols ...".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **1.4x**   *P* **18**   *L* **22**   # 421
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status* **X**
   The "33.333 MHz" nees to have the iteration bar on top of the last digit.

SuggestedRemedy
   Insert "the iteration bar" to the last digit of 33.333 MHz.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **421**   Page 76 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:26
SORT ORDER: Comment ID

Cl **96**　　*SC* **1.4.382**　　　*P* **18**　　*L* **8**　　# 422
Tazebay, Mehmet　　　　　　　Broadcom

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

The 66.666 MHz needs to have iteration bar on top of the last digit in the following
locations:
　1. In 1.4.382 (page 18, line 8)
　2. In 96.1.2.2 (page 30, line 11)

SuggestedRemedy

Insert "the iteration bar" to the last digit of 66.666 MHz.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC*　　　　　*P* **17**　　*L* **3**　　# 423
Tazebay, Mehmet　　　　　　　Broadcom

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

Missing underline for "and Clause 96" in the following locations:
　1. In 1.4.183 (page 17, line 3)
　2. In 1.4.381 (page 18, line 3)
　3. In 1.4.x name (page 18, line 16)

SuggestedRemedy

Underline the text for these locations.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **1.4.381**　　　*P* **18**　　*L* **2**　　# 424
Tazebay, Mehmet　　　　　　　Broadcom

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

The symbol rate has a 15 nanoseconds for the line code and the code group (2 PAM3
symbols) have thirty seconds.

SuggestedRemedy

Change "In 100BASE-T1 this is equivalent to thirty nanoseconds." to "In 100BASE-T1, this
is equivalent to fifteen nanoseconds with a code group of thirty nanoseconds.".

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **1.4.183**　　　*P* **17**　　*L* **1**　　# 425
Tazebay, Mehmet　　　　　　　Broadcom

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

Missing "s" in the word "code-group" as it should be plural.

SuggestedRemedy

Change "... ESD consists of the code-group of 3 consecutive" to "ESD consists of the code-
groups of 3 consecutive".

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **1.4.x**　　　*P* **18**　　*L* **19**　　# 426
Tazebay, Mehmet　　　　　　　Broadcom

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

There is an additional "are" in the sentence "... having specified
transmission characteristics are provided in 96.7.1"

SuggestedRemedy

Change "... having specified
transmission characteristics are provided in 96.7.1" to "having specified
transmission characteristics provided in 96.7.1

Proposed Response　　　*Response Status*　**O**

Cl **96**　　*SC* **1.4.x**　　　*P* **18**　　*L* **21**　　# 427
Tazebay, Mehmet　　　　　　　Broadcom

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

The statement "... the data encoding technique used by the PHY when converting MII data
(4B-4 bits) with 25 MHz clock to 3 bits (3B) wide of data that is transmitted during one
33.333 MHz clock period" can be improved in order to provide clarity.

SuggestedRemedy

Change "... the data encoding technique used by the PHY when converting MII data (4B-4
bits) with 25 MHz clock to 3 bits (3B) wide of data that is transmitted during one 33.333
MHz clock period. (See 96.3.2.2.2)" to
"... the data encoding technique used by the PHY when converting 4 bits (4B) MII data at
25MHz clock to 3 bits (3B) data that is transmitted during one 33.333 MHz clock period.
(See 96.3.2.2.2)".

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **427**　　　Page 77 of 117
05/01/2015 19:35:26

Cl **96**   *SC* **96.1.1**   *P* **29**   *L* **23**   # 428
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status*   **X**
Add "full duplex" as following to clarify support of full duplex operation only.

SuggestedRemedy
Insert "full duplex operation" after "... at 100 Mb/s

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.1.2.3**   *P* **30**   *L* **17**   # 429
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status*   **X**
There are unnecessary underscores in the text and they should be removed.

SuggestedRemedy
Change "PMA transmits over _each wire pair_." to "PMA transmits over each wire pair."

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.4.4**   *P* **58**   *L* **23**   # 430
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status*   **X**
It is necessary to include the speed information when mentioning the mode operation in this statement.

SuggestedRemedy
Insert "in 100 Mb/s" after "... into the mode of operation"

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.2.4.3**   *P* **35**   *L* **33**   # 431
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status*   **X**
"Clock Recovery" is capitalized for the the first letters. It should be "PMA clock recovery perform".

SuggestedRemedy
Change "PMA Clock Recovery perform" to "PMA clock recovery perform"

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.3**   *P* **38**   *L* **37**   # 432
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status*   **X**
Better description needs to be defined for the interface between PCS and PMA.

SuggestedRemedy
Change "PCS passes the 1-D 3 level (+1, 0, -1) coding to the PMA to convert to electrical signaling." to "PCS passes the ternary symbols to the PMA to convert to electrical signaling.".

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.3.2.3**   *P* **41**   *L* **28**   # 433
Tazebay, Mehmet   Broadcom

Comment Type   **E**   *Comment Status*   **X**
On page 41 lines 28 & 29, the "n" subcharacter should be italic in "An"

SuggestedRemedy
Change "An" to "A{\italic n}"

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **433**   Page 78 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:26
SORT ORDER: Comment ID

Cl **96**　　　*SC* **1.4.x**　　　　　*P* **18**　　　*L* **31**　　　# 434
Tazebay, Mehmet　　　　　　　　　Broadcom

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

There is a need for clarification how the Master and Slave assignment is done.

SuggestedRemedy

Insert "set by Force mode" after ".. is used for MASTER and SLAVE assignment"

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.3.3.1**　　　*P* **51**　　　*L* **3**　　　# 435
Tazebay, Mehmet　　　　　　　　　Broadcom

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

In 96.9 PCS Receive state diagram (lines 3 & 4), link_status needs to revised to "FAIL" since there's no "FALSE" definition.

SuggestedRemedy

Change "link_status = FALSE" to "link_status = FAIL". The file PCS_TX_RC_State_Machine.vsd is attached.

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.3.2.3**　　　*P* **42**　　　*L* **8**　　　# 436
Tazebay, Mehmet　　　　　　　　　Broadcom

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

In Figure 96-5 (page 42 lines 8, 18, 27, 37), MII data is shown 2 nibbles of a byte (d0 d0 d1 d1 d2 d2 ...) for 4B3B MII signal conversion but it is not necessary and it should be renumbered (d0 d1 d2 d3 ...)

SuggestedRemedy

Revise the figure 96-5 in order to reflect "d0 d1 d2 d3 ..." instead of "d0 d0 d1 d1 ..". The file 4B3B_MII_conversion_Fig96_5_partA.vsd is attached.

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.3.2.3**　　　*P* **43**　　　*L* **4**　　　# 437
Tazebay, Mehmet　　　　　　　　　Broadcom

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

In Figure 96-5 ((page 43 lines 4, 13), MII data is shown 2 nibbles of a byte (d0 d0 d1 d1 d2 d2 ...) for 4B3B MII signal conversion but it is not necessary and it should be renumbered (d0 d1 d2 d3 ...).

SuggestedRemedy

Revise the figure 96-6 in order to reflect "d0 d1 d2 d3 ..." instead of "d0 d0 d1 d1 ..". The file 4B3B_MII_conversion_Fig96_5_partB.vsd is attached.

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.5.4.4**　　　*P* **55**　　　*L* **31**　　　# 438
Tazebay, Mehmet　　　　　　　　　Broadcom

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

The information is provided for the spectrum analyzer measurements but there is a missing section at the end for sweep time unit and the detector type

SuggestedRemedy

Insert "min, RMS detector" after "... sweep time>1"

Proposed Response　　　*Response Status* **O**

Cl **96**　　　*SC* **96.7.1.2**　　　*P* **73**　　　*L* **13**　　　# 439
Tazebay, Mehmet　　　　　　　　　Broadcom

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

The definition for insertion loss does not specify the proper termination.

SuggestedRemedy

Change "The insertion loss of the channel (one pair 15 meter UTP link segment as shown in Figure 96-24) shall be less than that contained in Table 96-7:"
to "The insertion loss of the link segment as shown in Figure 96-24 when measured with 100 Ohm termination shall be less than values shown in Table 96-7:"

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **439**

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Cl **96** *SC* **96.7.2** *P* **74** *L* **23** # 440
Tazebay, Mehmet Broadcom
Comment Type **T** *Comment Status* **X**
The frequency range is missing for PSANEXT
SuggestedRemedy
Insert "where f is the frequency over 1 MHz - 100 MHz range."
Proposed Response *Response Status* **O**

Cl **96** *SC* **96.8.1** *P* **74** *L* **39** # 441
Tazebay, Mehmet Broadcom
Comment Type **T** *Comment Status* **X**
The mechanical connection to a multi-pin connector is missing.
SuggestedRemedy
Insert "2 pins of" before "a multi-pin connector."
Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.4.5** *P* **70** *L* **36** # 442
Tazebay, Mehmet Broadcom
Comment Type **T** *Comment Status* **X**
n 96.5.4.5 (page 70 line 36 to 38), there is no need for a table and symbol rate should be changed to Mbaud instead of MHz. This sections needs to be revised.
SuggestedRemedy
Remove the table.
Change "The symbol transmission rate of the 100BASE-T1 PHY in MASTER mode shall be within the range:"
to "The symbol transmission rate of the 100BASE-T1 PHY in MASTER mode shall be within the range: of 66.666MBd +- 100 ppm."
Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.3.1** *P* **52** *L* **2** # 443
Tazebay, Mehmet Broadcom
Comment Type **T** *Comment Status* **X**
11.In 96.3.3.1 (page 52 line 2) Figure 96-10, the pcs_reset is missing for JABIDLE state. The figure needs to be updated. The corrected figure Figure_96_10_JAB_State_Diagram_v2.docx is attached.
SuggestedRemedy
Insert "pcs_reset" in JABIDLE state in Figure 96.10.
Proposed Response *Response Status* **O**

Cl **96** *SC* **45.2.1.2001** *P* **26** *L* **30** # 444
Tazebay, Mehmet Broadcom
Comment Type **E** *Comment Status* **X**
There is a typo in "Configre PHY as SLAVE"
SuggestedRemedy
Change "Configre PHY as SLAVE" to "Configure PHY as SLAVE"
Proposed Response *Response Status* **O**

Cl **96** *SC* **1.4.377** *P* **17** *L* **38** # 445
Tazebay, Mehmet Broadcom
Comment Type **E** *Comment Status* **X**
There is an additional "sosb" which does not belong to the sentence.
SuggestedRemedy
Remove "sosb"
Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **445** Page 80 of 117
05/01/2015 19:35:26

Cl **96**   *SC* **96.3.2.3.1**   *P* **44**   *L* **33**   # 446

Tazebay, Mehmet   Broadcom

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

In 96.3.2.3.1 (page 44 line 33), "100BT1receive" is being defined but not being used elsewhere in this document. Clause 40 has a similar one named "1000BTreceive" but "receiving" has been defined in this document. Therefore, 100BT1receive" should be removed.

SuggestedRemedy

Remove "100BASET1receive" including the lines 33 to 35 on Page 44.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3.1**   *P* **45**   *L* **7**   # 447

Tazebay, Mehmet   Broadcom

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

2.In 96.3.2.3.1 (page 45 line 7), 100BT1transmit" is being defined but not being used elsewhere in this document. Clause 40 has a similar one named "1000BTtransmit" but it does not apply to 100BASE-T1

SuggestedRemedy

Remove "100BASET1transmit" including lines from 7 to 11 on Page 45.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **1.4.x**   *P* **18**   *L* **25**   # 448

Tazebay, Mehmet   Broadcom

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

1D-PAM3 is not used. Therefore, it should be removed.

SuggestedRemedy

Remove "1.4.x 1D-PAM3: The symbol encoding method used in the 100BASE-T1 PHY is 1D-PAM3. The one dimensional ternary (1D) code groups from PCS Transmit (See Clause 96.3.2) are transmitted using three voltage signal levels (PAM3). One symbol is transmitted in each symbol period." from lines 25 to 27 on Page 18.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.2**   *P* **57**   *L* **18**   # 449

Tazebay, Mehmet   Broadcom

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

"Config" should start with lower case letter 'c' as "config".

SuggestedRemedy

Change "Config" to "config"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5**   *P* **62**   *L* **25**   # 450

Tazebay, Mehmet   Broadcom

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

"EMC Requirements" should change to "EMC Tests" as the requirements are OEM specific and the purpose of this section is to give information about specific tests which are being conducted by OEMS.

SuggestedRemedy

Change "EMC Requirements" to "EMC Tests"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **62**   *L* **52**   # 451

Tazebay, Mehmet   Broadcom

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

Replace "are" with "shall be" as the test modes are requirements for compliancy testing.

SuggestedRemedy

Change "described in Table 96-4 are provided" to "described in Table 96-4 shall be provided".

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **451**   Page 81 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:26
SORT ORDER: Comment ID

Cl **96**   *SC* **45.2.1**   *P* **24**   *L* **18**   # 452

Tazebay, Mehmet   Broadcom

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

The reference "45.2.1.2001" should be "45.2.1.2002".

SuggestedRemedy

Change "45.2.1.2001" to "45.2.1.2002".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.5.1**   *P* **70**   *L* **50**   # 453

Tazebay, Mehmet   Broadcom

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

Replace "Table 96.7" with "Table 96-7" for consistency.

SuggestedRemedy

Change "Table 96.7" to "Table 96-7".

Proposed Response   *Response Status* **O**

Cl **96**   *SC*   *P* **13**   *L* **17**   # 454

Tazebay, Mehmet   Broadcom

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

In Contents (page 13 line 17), replace "Media" with "Medium" because Physical Medium Attachment is proper terminology in 803.2. The same also in 96.1 (page 29 line 12,13) and 96.4 (page 55 line 42).

SuggestedRemedy

Change "Physical Media Attachment" to "Physical Medium Attachment" everywhere that is being used.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.1**   *P* **52**   *L* **22**   # 455

Tazebay, Mehmet   Broadcom

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

In 96.3.3.1 (page 52 line 22) Figure 96-10, there is a typo in "rcvr_max_timer_done" and it should be "rcv_max_timer_done". The corrected figure Figure_96_10_JAB_State_Diagram_v2.docx is attached.

SuggestedRemedy

Change "rcvr_max_timer_done" to "rcv_max_timer_done"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **1.3**   *P* **16**   *L* **3**   # 456

Tazebay, Mehmet   Broadcom

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

The reference for CISPR 25 is missing.

SuggestedRemedy

Insert the following reference for CISPR 25
"IEC CISPR 25 Edition 3.0 2008-03 : Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **1.4.163**   *P* **16**   *L* **44**   # 457

Tazebay, Mehmet   Broadcom

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

There is a typo in the text "two Start-of-Stream delimiter code-groups which should be three.

SuggestedRemedy

Change "This mode begins with transmission of two Start-of-Stream delimiter code-groups followed by" to "This mode begins with transmission of three Start-of-Stream delimiter code-groups followed by".

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **457**

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05/01/2015 19:35:26

Cl **96**   *SC* **96.1.1**   *P* **29**   *L* **25**   # 458
Tazebay, Mehmet   Broadcom

Comment Type **T**   *Comment Status* **X**
There is a missing reference to the channel and 96.7 should be added for clarification and "one pair UTP cable" should be changed to "single balanced twisted pair"

SuggestedRemedy
Change "(over a one pair UTP cable)" to "(over a single balanced twisted pair cabling as defined in 96.7)".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.3**   *P* **57**   *L* **40**   # 459
Tazebay, Mehmet   Broadcom

Comment Type **ER**   *Comment Status* **X**
"SCR_STATUS" should be all lower case "scr_status".

SuggestedRemedy
Change "SCR_STATUS" to "scr_status".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.1.1**   *P* **53**   *L* **27**   # 460
Tazebay, Mehmet   Broadcom

Comment Type **ER**   *Comment Status* **X**
"RXn " is a typo and it should be "Rxn"

SuggestedRemedy
Change "RXn " to "Rxn ".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.2.5.2**   *P* **36**   *L* **3**   # 461
Tazebay, Mehmet   Broadcom

Comment Type **TR**   *Comment Status* **X**
The PCS continuously generates PMA_UNITDATA.request (SYMB_1D) synchronously with every transmit clock TX_TCLK cycle. Therefore, "continuously" and "TX_CLK" should be specified.

SuggestedRemedy
Insert "continuously" after "The PCS".

Insert "TX_TCLK" after ".. every transmit clock"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.2.3.4**   *P* **46**   *L* **18**   # 462
Tazebay, Mehmet   Broadcom

Comment Type **TR**   *Comment Status* **X**
There is no need for PUDR as PCS clock is continuously generated by transmit clock TX_TCLK. It should be removed.

SuggestedRemedy
Remove "PUDR" and its definition on lines 18 and 19 on page 46

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3.3.1.1**   *P* **53**   *L* **33**   # 463
Tazebay, Mehmet   Broadcom

Comment Type **TR**   *Comment Status* **X**
It is not necessary to define TSPCD (Transmit Symvol Pair Converted Done) as the PCS Transmit symbol pair conversion occurrs on every TX_TCLK. Therefore, "TSPCD
Transmit Symbol Pair Converted Done, synchronized with PCS transmit clock pc_txclk of frequency 33.333 MHz." should be removed

SuggestedRemedy
On page 53 lines 33,34, and 35, remove "TSPCD" and its definition "Transmit Symbol Pair Converted Done, synchronized with PCS transmit clock pc_txclk of frequency 33.333 MHz."

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **463**   Page 83 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:26
SORT ORDER: Comment ID

Cl **96**　　*SC* **96.3.2.3.4**　　　　*P* **46**　　*L* **24**　　# `464`

Tazebay, Mehmet　　　　　　　　Broadcom

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

"RSPCD" is a timer which belongs to 96.3.2.3.3 and not to 96.3.2.3.4. Therefore, it should be moved to 96.3.2.3.4. Also, the symbol conversion reference should be provided.

SuggestedRemedy

Move "RSPCD
Receive Symbol Pair Converted Done, synchronized with PCS receive clock pcs_rxclk of frequency 33.333 MHz." to 96.3.2.3.3.

Insert "The symbol conversion is as specified in 96.3.3.1." after "... pcs_rxclk of frequency 33.333 MHz."

Proposed Response　　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3**　　　　*P* **43**　　*L* **20**　　# `465`

Tazebay, Mehmet　　　　　　　　Broadcom

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

In Figure 96-6 PCS Transmit State Diagram, "TSPCD" must be removed.

PCS Transmit State Diagram is attached.

SuggestedRemedy

Change figure 96.6 as suggested.

Proposed Response　　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.1**　　　　*P* **51**　　*L* **2**　　# `466`

Tazebay, Mehmet　　　　　　　　Broadcom

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

i) In Figure 96-9 PCS Receive State Diagram, "RSPCD" should be in the conditions for transitioning to the IDLE and LINK FAILED states.

ii) A few instances of Rxn should be corrected from RXn.

PCS Receive State Diagram is attached.

SuggestedRemedy

Change figure 96.9 as suggested.

Proposed Response　　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.2.3.2**　　　　*P* **45**　　*L* **45**　　# `467`

Tazebay, Mehmet　　　　　　　　Broadcom

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

The "tx_symb_pair" is the correct terminology for the output argument of PCS Transmit process and not "tx_symb_vector". Therefore, it should be changed to "tx_symb_pair"

SuggestedRemedy

Change "tx_symb_vector" to "tx_symb_pair".

Proposed Response　　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.1.1**　　　　*P* **52**　　*L*　　# `468`

Tazebay, Mehmet　　　　　　　　Broadcom

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

The definition for rx_symb_pair is missing and it should be added.

SuggestedRemedy

Insert "rx_symb_pair

A pair of ternary symbols generated by the PCS Receive function before ternary pair decoding.

Value: SYMB_2D: A pair of ternary receive symbols. Each of the ternary symbols may take on one of the values {-1, 0, or +1}."

Proposed Response　　　　*Response Status*　**O**

Cl **96**　　*SC* **96.3.3.1.2**　　　　*P* **53**　　*L* **48**　　# `469`

Tazebay, Mehmet　　　　　　　　Broadcom

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

The "rx_symb_pair" is the correct terminology for the input argument of PCS Receive process and not "rx_symb_vector". Therefore, it should be changed to "rx_symb_pair"

SuggestedRemedy

Proposed Response　　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **469**

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05/01/2015 19:35:26

Cl **96**   *SC* **96.3.2.3.1**   *P* **45**   *L* **2**   # 470
Tazebay, Mehmet   Broadcom

Comment Type **TR**   *Comment Status* **X**
The definition for SYMB_2D for "tx_symb_pair" value should be defined.

SuggestedRemedy
Insert ": A pair of ternary transmit symbols. Each of the ternary symbols may take on one of the values {-1, 0, or +1}." after "SYMB_2D".

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.142**   *P* **2**   *L* **23**   # 471
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
A capital "A" after comma.
(This is the same comment as the D1.0 TF Review comment #90, which is accepted, but not implemented.)

SuggestedRemedy
Uncapitalize the "A".

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.313**   *P* **3**   *L* **10**   # 472
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
A duplicated "and".
(This is the same comment as the D1.0 TF Review comment #91, which is accepted, but not implemented.)

SuggestedRemedy
Remove the redundant "and".

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **29**   # 473
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
The current definition of "PHY-Initialization" describes why a primitive PHY-Initialization is necessary, but does not describe "PHY-Initialization" itself.
Also, according to the 2014 IEEE-SA Standards Style Manual 10.6.3 (Construction of the definitions clause), each definition shall not contain requirements or elaborative text. The last sentence of the "PHY-Initialization" definition seems to specify a requirement of start-up procedure.

SuggestedRemedy
Move current description to subclause 96.6.2 as the first paragraph, and modify the definition as follows:

1.4.x PHY-Initialization: A primitive used to assign MASTER and SLAVE by the station management entry instead of the auto-negociation process.

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.5.1.1.11**   *P* **8**   *L* **41**   # 474
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
A link integrity state diagram is not specified in the draft. Figure 96-16 is "Link Monitor State Diagram".
(Same issues exists in IEEE 802.3-2012. Similar comments are provided to the IEEE P802.3bx WG letter ballot.)

SuggestedRemedy
Replace "link integrity state diagram" by "link monitor state diagram".

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **15**   # 475
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
A suprious definition "1.4.x name" exists.

SuggestedRemedy
Delete a definition of "1.4.x name".

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **475**   Page 85 of 117
05/01/2015 19:35:26

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **15**   # 476
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
It is necessary to define a term "100BASE-T1".

SuggestedRemedy
Insert a following new definition.

1.4.x 100BASE-T1: IEEE 802.3 Physical Layer specification for a 100 Mb/s Ethernet using one pair of balanced copper cabling. (See IEEE Std 802.3, Clause 96.)

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.5**   *P* **4**   *L* **39**   # 477
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
A suprious definition of "ABBR".

SuggestedRemedy
Delete a definition of "ABBR".

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.5**   *P* **4**   *L* **39**   # 478
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
It is better to define "DPI".

SuggestedRemedy
Insert a following new definition of "DPI".

DPI Direct Power Injection

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.5**   *P* **4**   *L* **39**   # 479
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
It is better to define following abbrevations: "PSAACRF","PSANEXT","TCL" and "TCTL". (Note; IEEE P802.3bp D1.10 defines these abbreviations. However, 802.3bw will be published before 802.3bp, it is better to define these abbrevations in 802.3bw.)

SuggestedRemedy
Insert following definitions:

PSAACRF   power sum alien attenuation crosstalk ratio far-end
PSANEXT   power sum alien near-end crosstalk
TCL   transverse conversion loss
TCTL   transverse conversion transmission loss

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.4**   *P* **45**   *L* **1**   # 480
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
There is a non-defined term "BroadR-Reach" in the Figure 96-15.

SuggestedRemedy
Replace "BroadR-Reach" with "100BASE-T1" in the Figure 96-15.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.5.3**   *P* **57**   *L* **32**   # 481
Mitsuru, Iwaoka   Yokogawa Electric Cor

Comment Type **E**   *Comment Status* **X**
There is a not-defiend term "BroadR-Reach" in the Figure 96-23.

SuggestedRemedy
Replace "BroadR-Reach" with "100BASE-T1" in the Figure 96-23 (two occurences).

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **481**   Page 86 of 117
05/01/2015 19:35:26

Cl **01** *SC* **1.4.142** *P* **2** *L* **18** # 482

Mitsuru, Iwaoka Yokogawa Electric Cor

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

A defined term "code_group:" should be bold.

SuggestedRemedy

Make "code_group:" bold.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.381** *P* **4** *L* **2** # 483

Mitsuru, Iwaoka Yokogawa Electric Cor

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

96.3.2.3 (P.27, line 31) specifies that a symbol period is nominally equal to 15ns.

SuggestedRemedy

Replace "thirty" by "fifteen".

Proposed Response *Response Status* **O**

Cl **96.2.** *SC* *P* **32** *L* **26** # 484

Wienckowski, Natalie General Motors

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

double period

SuggestedRemedy

Replace: configuration..

With: configuration.

Proposed Response *Response Status* **O**

Cl **96.2.** *SC* *P* **32** *L* **32** # 485

Wienckowski, Natalie General Motors

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

unneeded comma

SuggestedRemedy

Replace: DISABLE, or ENABLE

With: DISABLE or ENABLE

Proposed Response *Response Status* **O**

Cl **96.3.** *SC* *P* **40** *L* **93** # 486

Wienckowski, Natalie General Motors

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

Editing marks left in document

SuggestedRemedy

Delete : with strikethrough in it after: tx_enable_mii and tx_error_mii

Proposed Response *Response Status* **O**

Cl **96.3.** *SC* *P* **40** *L* **41** # 487

Wienckowski, Natalie General Motors

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

Most definitions in this section use the variable name, not "it".

Also, the diagram can't generate any variables, it is just a representation of how they are set.

SuggestedRemedy

Replace: It is generated by PCS Data Transmission Enabling state diagram as specified in

With: The tx_enable_mii parameter generated by PCS Transmit Enable as specified in

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **487**

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Cl **96.3.**　　*SC*　　　　　　　*P* **40**　　　*L* **44**　　　　# 488
Wienckowski, Natalie　　　　　General Motors

Comment Type **E**　　　*Comment Status* **X**
Most definitions in this section use the variable name, not "it".

Also, the diagram can't generate any variables, it is just a representation of how they are set.

SuggestedRemedy
Replace: It is generated by PCS Data Transmission Enabling state diagram as specified in

With: The tx_error_mii parameter generated by PCS Transmit Enable as specified in

Proposed Response　　　　*Response Status* **O**

Cl **96.3.**　　*SC*　　　　　　　*P* **41**　　　*L* **35**　　　　# 489
Wienckowski, Natalie　　　　　General Motors

Comment Type **E**　　　*Comment Status* **X**
editing marks left in document

SuggestedRemedy
remove are with strikethrough in: 6 consecutive symbols areis generated
NOTE: strikethrough does not copy

Proposed Response　　　　*Response Status* **O**

Cl **96.3.**　　*SC*　　　　　　　*P* **41**　　　*L* **37**　　　　# 490
Wienckowski, Natalie　　　　　General Motors

Comment Type **E**　　　*Comment Status* **X**
Extraneous explanation of how 100BASE-T1 is different.

SuggestedRemedy
Replace: Unlike 100BASE-TX or 1000BASE-T where symbols shall be exclusively assigned for TX_ER assertion occurrence, 100BASE-T1 only has one special symbol pair (0, 0) that is not used by Idle or Data symbols. Therefore, rather than insert ERROR symbols at the place TX_ER is asserted, in 100BASE-T1, at the end of data packet, tx_error is examined to determine whether ESD3 or ERR_ESD3 shall be transmitted following two consecutive special pairs (0, 0) for ESD1 and ESD2, as shown in Figure 96-6.

With: 100BASE-T1 has one special symbol pair (0, 0) that is not used by Idle or Data symbols. At the end of the data packet, tx_error is examined to determine whether ESD3 or ERR_ESD3 shall be transmitted following two consecutive special pairs (0, 0) for ESD1 and ESD2, as shown in Figure 96-6.

Proposed Response　　　　*Response Status* **O**

Cl **96.3.**　　*SC*　　　　　　　*P* **41**　　　*L* **51**　　　　# 491
Wienckowski, Natalie　　　　　General Motors

Comment Type **E**　　　*Comment Status* **X**
poor wording

SuggestedRemedy
Replace: If TXMODE has the value SEND_N, PCS Transmit generates symbol An, at each symbol period, that are representing data,

With: If TXMODE has the value SEND_N, PCS Transmit generates symbol An at each symbol period representing data,

Proposed Response　　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **491**

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05/01/2015 19:35:26

Cl **96.3.** *SC* *P* **48** *L* **8** # 492
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **X**
Incorrect formatting

SuggestedRemedy
The "n" in "TAn" and "TBn" in "Generation of (TAn, TBn) when TXMODE = SEND_I" should be subscripts.

Proposed Response *Response Status* **O**

Cl **96.3.** *SC* **Table 96-1** *P* **48** *L* **15** # 493
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **X**
Editing marks left in document

SuggestedRemedy
Remove "dle" with strikethrough and underline beneath "Idle" in the title.

Proposed Response *Response Status* **O**

Cl **96.3.** *SC* *P* **53** *L* **25** # 494
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **X**
Editing marks left in document

SuggestedRemedy
Remove underline below "."

Proposed Response *Response Status* **O**

Cl **96.3.** *SC* *P* **54** *L* **14** # 495
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **X**
poor grammar

SuggestedRemedy
Replace: When PMA Receive indicates normal operations and sets

With: When PMA Receive indicates normal operation and sets

Proposed Response *Response Status* **O**

Cl **96.4.** *SC* *P* **57** *L* **20** # 496
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **X**
poor wording

SuggestedRemedy
Replace: using the transmit clock TX_TCLK in 66.666 MHz frequency which

With: using the transmit clock TX_TCLK of 66.666 MHz which

Proposed Response *Response Status* **O**

Cl **96.4.** *SC* *P* **62** *L* **8** # 497
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **X**
formatting error

SuggestedRemedy
Indent: if config = SLAVE. This timer is used jointly in the PHY Control and Link Monitor state diagrams.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **497**

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05/01/2015 19:35:26

Cl **96.5.** *SC* *P* **62** *L* **35** # 498
Wienckowski, Natalie   General Motors

Comment Type **E** *Comment Status* **X**
poor grammar

SuggestedRemedy
Replace: In a real application radiofrequency

With: In a real application, radio frequency

Proposed Response *Response Status* **O**

Cl **96.5.** *SC* *P* **62** *L* **45** # 499
Wienckowski, Natalie   General Motors

Comment Type **E** *Comment Status* **X**
Incorrect heading level

SuggestedRemedy
Section 96.5.1.3 should be 96.5.2 as this is not part of the EMC requirement, but is another Electrical Specification.

Proposed Response *Response Status* **O**

Cl **96.5.** *SC* *P* **63** *L* **21** # 500
Wienckowski, Natalie   General Motors

Comment Type **E** *Comment Status* **X**
poor grammar

SuggestedRemedy
Replace: For example, a PHY transmitting 40 symbols (600 ns) will be long enough for a 500 ns droop measurements.

With: For example, a PHY transmitting 40 symbols (600 ns) will be long enough for a 500 ns droop measurement.

Proposed Response *Response Status* **O**

Cl **96.5.** *SC* *P* **66** *L* **33** # 501
Wienckowski, Natalie   General Motors

Comment Type **E** *Comment Status* **X**
Remove editing marks left in document

SuggestedRemedy
Remove underlines from both commas in the following: The peak distortion values, measured at a minimum of 10 equally-spaced phases of a single symbol period, shall be less than 15 mV.

Proposed Response *Response Status* **O**

Cl **96.5.** *SC* *P* **71** *L* **14** # 502
Wienckowski, Natalie   General Motors

Comment Type **E** *Comment Status* **X**
editing marks left in document

SuggestedRemedy
Remove "of" with strikethrough and underline below "to" in the following: This specification is provided to verify the DUT's tolerance ofto alien crosstalk noise."

Proposed Response *Response Status* **O**

Cl **96.5.** *SC* **Figure 96-23** *P* **71** *L* # 503
Wienckowski, Natalie   General Motors

Comment Type **E** *Comment Status* **X**
Incorrect symbol/name for "ohms"

SuggestedRemedy
Replace "O" on all resistors with ohm symbol or "Ohms".

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **503**   Page 90 of 117
05/01/2015 19:35:26

Cl **96.5.**   *SC*   *P* **71**   *L* **32**   # 504
Wienckowski, Natalie   General Motors

Comment Type   **E**   *Comment Status* **X**
    Don't want reference to BroadR-Reach and missing close parenthesis.

SuggestedRemedy
    Replace: NOISE SOURCE (BroadR-Reach 100Mbps COMPLIANT
    TRANSMITTER SENDING IDLES NONSYNCHRONOUS
    TO THE BroadR-Reach TRANSMITTER UNDER TEST

    With: NOISE SOURCE (100BASE-T1 100Mbps COMPLIANT
    TRANSMITTER SENDING IDLES NONSYNCHRONOUS
    TO THE 100BASE-T1 TRANSMITTER UNDER TEST)

Proposed Response   *Response Status* **O**

Cl **96.6**   *SC*   *P* **71**   *L* **41**   # 505
Wienckowski, Natalie   General Motors

Comment Type   **E**   *Comment Status* **X**
    extraneous comma

SuggestedRemedy
    Replace: 100BASE-T1 makes use of the management functions provided by the MII
    Management Interface specified in 22.2.4,

    With: 100BASE-T1 makes use of the management functions provided by the MII
    Management Interface specified in 22.2.4

Proposed Response   *Response Status* **O**

Cl **96.7.**   *SC* **a**   *P* **74**   *L* **5**   # 506
Wienckowski, Natalie   General Motors

Comment Type   **E**   *Comment Status* **X**
    Editing marks left in document

SuggestedRemedy
    remove comma with strikethrough in: the same cable pair, is caused

Proposed Response   *Response Status* **O**

Cl **96.7.**   *SC* **a**   *P* **74**   *L* **9**   # 507
Wienckowski, Natalie   General Motors

Comment Type   **E**   *Comment Status* **X**
    Editing marks left in document

SuggestedRemedy
    Remove space with strikethrough (or random -) at end of line.

Proposed Response   *Response Status* **O**

Cl **96.7.**   *SC*   *P* **74**   *L* **25**   # 508
Wienckowski, Natalie   General Motors

Comment Type   **E**   *Comment Status* **X**
    Extraneous date in document, updates with each document release

SuggestedRemedy
    Remove date: equally spaced)6 November 2014 shall be

Proposed Response   *Response Status* **O**

Cl **96.8.**   *SC*   *P* **75**   *L* **4**   # 509
Wienckowski, Natalie   General Motors

Comment Type   **E**   *Comment Status* **X**
    Editing marks left in document.

SuggestedRemedy
    Remove underline from (RL).

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **509**   Page 91 of 117
05/01/2015 19:35:26

Cl **1.4.3**   *SC*   *P* **18**   *L* **8**   # 510
Wienckowski, Natalie   General Motors

Comment Type **T**   *Comment Status* **X**
incorrect baud rate

SuggestedRemedy
In: for 100BASE-T1, the symbol rate is 66.666 MBd

Add "bar" on top of the last 6 in 66.666.

Proposed Response   *Response Status* **O**

Cl **1.4.x**   *SC*   *P* **18**   *L* **22**   # 511
Wienckowski, Natalie   General Motors

Comment Type **T**   *Comment Status* **X**
incorrect clock frequency

SuggestedRemedy
In: during one 33.333 MHz

Add "bar" on top of the last 3 in 33.333.

Proposed Response   *Response Status* **O**

Cl **1.4.1**   *SC*   *P* **17**   *L* **2**   # 512
Wienckowski, Natalie   General Motors

Comment Type **E**   *Comment Status* **X**
poor wording

SuggestedRemedy
Replace: ternary pairs named as ESD1-3 as defined in 96.3.2.3.

With: ternary pairs named ESD1-3 as defined in 96.3.2.3.

Proposed Response   *Response Status* **O**

Cl **1.4.3**   *SC*   *P* **17**   *L* **43**   # 513
Wienckowski, Natalie   General Motors

Comment Type **E**   *Comment Status* **X**
poor wording

SuggestedRemedy
Replace: SSD consists of the code-group of 3 consecutive ternary pairs named as SSD1-3 as

With: SSD consists of the code-group of 3 consecutive ternary pairs named SSD1-3 as

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **513**   Page 92 of 117
05/01/2015 19:35:26

Cl **00**　　　*SC* **0**　　　　　　*P*　　　　*L*　　　　# `514`
Wienckowski, Natalie　　　　　General Motors

Comment Type　**E**　　*Comment Status*　**X**
Many different names used for the cabling.
pg 18, line 18: one pair cable
pg 29, line 89: single twisted pair line connection
pg 29, line 20: one pair unshielded twisted pair (UTP)
pg 29, line 25: one pair UTP cable
pg 29, line 32: one pair channel
pg 29, line 45: single twisted pair channel
pg 30, line 5: one pair twisted pair medium
pg 30, line 9: balanced one pair twisted pair cable medium
pg 30, line 11: one pair of balanced cabling
pg 30, line 17: _each wire pair_
pg 32, line 5: one twisted pair channel
pg 70, line 43: one pair cabling system
pg 72, line 22: one-pair balanced cabling system
pg 72, line 22: one pair UTP cable
pg 72, line 24: one pair 15m UTP balanced copper cabling
pg 72, line 26: 1-pair balanced copper cabling
pg 72, line 51: one pair of balanced cabling
pg 72, line 53: 1-pair UTP cables
pg 73, line 1: 1-pair UTP cable
pg 73, line 32: balanced 1-pair UTP cabling pair
pg 74, line 11: UTP channel
pg 74, line 18: UTP cable
pg 74, line 25: UTP cable

SuggestedRemedy
Use consistent name for the cable, replace all instances defined above with: "single balanced twisted pair" as was defined in the 1TPCE objectives.

Proposed Response　　　*Response Status*　**O**

Cl **1.4.x**　　*SC*　　　　　　　*P* **18**　　　*L* **22**　　　# `515`
Wienckowski, Natalie　　　　　General Motors

Comment Type　**E**　　*Comment Status*　**X**
poor wording

SuggestedRemedy
Replace: 3 bits (3B) wide of data that is transmitted

With: 3 bit (3B) wide data that is transmitted

Proposed Response　　　*Response Status*　**O**

Cl **1.4.x**　　*SC*　　　　　　　*P* **18**　　　*L* **30**　　　# `516`
Wienckowski, Natalie　　　　　General Motors

Comment Type　**E**　　*Comment Status*　**X**
extraneous period

SuggestedRemedy
Replace: auto-negotiation. process

With: auto-negotiation process

Proposed Response　　　*Response Status*　**O**

Cl **45.2.**　　*SC* **Table 45-4**　　*P* **24**　　　*L* **34**　　　# `517`
Wienckowski, Natalie　　　　　General Motors

Comment Type　**E**　　*Comment Status*　**X**
Should 100 Mb/s be added to this table? The x1xx = Reserved row was removed, but a new row was not added.

SuggestedRemedy
Add row:

0100 = 100 Mb/s

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **517**　　　Page 93 of 117
05/01/2015 19:35:26

Cl **45.2.**   *SC*   *P* **26**   *L* **42**   # 518
Wienckowski, Natalie   General Motors

Comment Type **E**   *Comment Status* **X**
    run-on sentence

SuggestedRemedy
    Replace: indicate MASTER-SLAVE config value bit 1.2100.14 is used

    With: indicate MASTER-SLAVE config value. Bit 1.2100.14 is used

Proposed Response   *Response Status* **O**

Cl **96.1.**   *SC*   *P* **29**   *L* **19**   # 519
Wienckowski, Natalie   General Motors

Comment Type **E**   *Comment Status* **X**
    poor wording

SuggestedRemedy
    Replace: The followings are

    With: The following are

Proposed Response   *Response Status* **O**

Cl **96.5.**   *SC*   *P* **69**   *L* **5**   # 520
Wienckowski, Natalie   General Motors

Comment Type **T**   *Comment Status* **X**
    uncommon word usage

SuggestedRemedy
    Replace: to 3 discrete differential voltage levels [-1, 0, +1] volts orrespondingly

    With: to 3 discrete differential voltage levels [-1, 0, +1] volts, respectively

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **0**   *P*   *L*   # 521
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
    The header for the draft says "IEEE 802.3bw Task Force 100BASE-T1 Task Force" which
    contains "Task Force" twice.

SuggestedRemedy
    Change to "IEEE 802.3bw 100BASE-T1 Task Force" throughout the draft

Proposed Response   *Response Status* **O**

Cl **99**   *SC*   *P*   *L*   # 522
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
    Page iii of the frontmatter contains "Special characters can be inserted via File, Utilities,
    Character palette using the Hex number." and Table 00-1.
    This should not be part of the draft frontmatter

SuggestedRemedy
    Remove the text and table.

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.3**   *P* **2**   *L* **7**   # 523
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
    The editing instructions are shown on page 1 of the draft. The only instruction that uses
    underline and strikeout font is "Change".
    The editing instruction here is "Insert", so the text below it should not be in underline font.

SuggestedRemedy
    Show the inserted text in normal font

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **523**   Page 94 of 117
05/01/2015 19:35:26

Cl **01** *SC* **1.4** *P* **2** *L* **18** # `524`

Anslow, Pete Ciena

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

The convention used throughout subclause 1.4 is that the term being defined (up to and including ":") is in bold font.
Some definitions use this format, but many do not.

SuggestedRemedy

Use bold font for all of the terms being defined.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # `525`

Anslow, Pete Ciena

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

There are many instances of cross-references in the draft that do not point to valid locations within the draft. These should be text shown in Forest Green (with a character tag "External" in FrameMaker).
For example Page 2, line 25:
Clause 23, Clause 24, Clause 32, Clause 36, Clause 40
are all broken links.

SuggestedRemedy

Go through the entire draft making cross-references to locations that are not in the draft text shown in Forest Green (with a character tag "External" in FrameMaker). For locations that are in the draft, make all occurences valid cross-references (clicking on them in the PDF version should move the view to that location).

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.142** *P* **2** *L* **23** # `526`

Anslow, Pete Ciena

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

In the second to last sentence:
"For 100BASE-T1, A set of ternary PAM3 symbols (out of 9 possible combinations), when representing data, conveys 3 bits, as defined in 96.3."
"A" should be "a" and the IEEE Style Manual 12.2 c) says "In general text, isolated numbers less than 10 should be spelled out.", so "out of 9" should be "out of nine" and "3 bits" should be "three bits".

In the last sentence, "... Clause 36, and Clause 40.)" has been changed to : "... Clause 36, Clause 40, and Clause 96.)". The insertion of "and Clause 96" is correctly shown in underline font but the removal of the "and " before "Clause 40" is not.

SuggestedRemedy

In the second to last sentence:
Change "A" to "a", "9" to "nine" and "3 to three".

In the last sentence, show "and " in strikethrough font before "Clause 40"

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.157** *P* **2** *L* **36** # `527`

Anslow, Pete Ciena

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

In the base standard, 1.4.157, 1.4.163, 1.4.183, 1.4.381, 1.4.385 all end with a reference in brackets that starts "(See IEEE Std 802.3, Clause ..."
This is because these definitions are copied out of the 802.3 standard into other documents.
However, in the P802.3bw draft, the text "IEEE Std 802.3, " is missing.

SuggestedRemedy

Put the missing "IEEE Std 802.3, " back in these definitions (in normal font).

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **527** Page 95 of 117
05/01/2015 19:35:26

Cl **01** *SC* **1.4.183** *P* **3** *L* **1** # 528

Anslow, Pete Ciena

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

The IEEE Style Manual 12.2 c) says "In general text, isolated numbers less than 10 should be spelled out."
In the added sentence in 1.4.183 "of 3" should be "of three"

The IEEE Style Manual 12.2 e) says "Dashes should never be used because they can be misconstrued as subtraction signs."
In the added sentence in 1.4.183 "named as ESD1-3" should be "named as ESD1 to ESD3"

SuggestedRemedy

In the added sentence in 1.4.183 change "3" to "three" and change "ESD1-3" to "ESD1 to ESD3".

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.183** *P* **3** *L* **2** # 529

Anslow, Pete Ciena

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

In the last sentence, "... Clause 32, and Clause 40.)" has been changed to : "... Clause 32, Clause 40, and Clause 96.)". The insertion of ", and Clause 96" is not shown in underline font and the removal of the "and " before "Clause 40" is not shown in strikethrough font.

Similar issue for 1.4.313 and 1.4.314

SuggestedRemedy

In the last sentence of 1.4.183, show "and " in strikethrough font before "Clause 40" and show ", and Clause 96" in underline font.
In the last sentence of 1.4.313, show "and " in strikethrough font before "Clause 82" and remove the first "and" in "and and Clause 96."
In the last sentence of 1.4.314, show "and " in strikethrough font before "Clauses 82 to 89"

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.315** *P* **3** *L* **23** # 530

Anslow, Pete Ciena

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

The last sentence of 1.4.315 has been changed from the published version (Clauses added in several places) without any changemarks.
Since the published version of this text does not have "Clause" in front of each reference, keep to this style.

SuggestedRemedy

Show as:
"(For example, See IEEE Std 802.3, Clauses 7, 12, 14, 16, 17, 18, 23, 24, 32, 36, 40, 51, 62, 63, 66, and 83, and 96.)" with the first "and " in strikethrough font and ", and 96" in underline font.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.377** *P* **3** *L* **43** # 531

Anslow, Pete Ciena

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

The IEEE Style Manual 12.2 c) says "In general text, isolated numbers less than 10 should be spelled out."
In the added sentence in 1.4.377 "of 3" should be "of three"

The IEEE Style Manual 12.2 e) says "Dashes should never be used because they can be misconstrued as subtraction signs."
In the added sentence in 1.4.183 "named as SSD1-3" should be "named as SSD1 to SSD3"

SuggestedRemedy

In the added sentence in 1.4.377 change "3" to "three" and change "SSD1-3" to "SSD1 to SSD3".

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **531** Page 96 of 117
05/01/2015 19:35:26

IEEE P802.3bw D1.2 100BASE-T1 Initial Working Group ballot comments

Cl **01**   *SC* **1.4.382**   *P* **4**   *L* **8**   # 532
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
After "125 MBd", "; " has been added, but is not shown in underline font.

SuggestedRemedy
Show "; " in underline font

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **16**   # 533
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
The first 1.4.x is:
"1.4.x name: definition uses Paragraph Tag D3,Definitions. (See Clause 96.)" which is
spurious and should be deleted.

SuggestedRemedy
Delete:
"1.4.x name: definition uses Paragraph Tag D3,Definitions. (See Clause 96.)"

Proposed Response   *Response Status* **O**

Cl **00**   *SC* **0**   *P*   *L*   # 534
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
The term "4B3B" is different from the established style in 802.3 which uses "8B/10B" and
"64B/66B"

SuggestedRemedy
Change "4B3B to "4B/3B" throughout the draft

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **20**   # 535
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
The definition for 1.4.x 4B3B could be written more clearly.
Also use 4B/3B as per another comment and include full reference to IEEE Std 802.3 as
per other comments.

SuggestedRemedy
Change:
"1.4.x 4B3B: In the 100BASE-T1 PHY, the data encoding technique used by the PHY when
converting MII data (4B-4 bits) with 25 MHz clock to 3 bits (3B) wide of data that is
transmitted during one 33.333 MHz clock period. (See 96.3.2.2.2)" to:
"1.4.x 4B/3B: In the 100BASE-T1 PHY, the data encoding technique used by the PHY
when converting 4-bit (4B) MII data with 25 MHz clock to 3-bit (3B) data with 33.333 MHz
clock. (See IEEE Std 802.3, 96.3.2.2.2)"

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **25**   # 536
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
In the definition for "1D-PAM3", "(See Clause 96.3.2)" should be "(See IEEE Std 802.3,
Clause 96.3.2)" because these definitions are copied out of the 802.3 standard into other
documents.

SuggestedRemedy
Change "(See Clause 96.3.2)" to "(See IEEE Std 802.3, Clause 96.3.2)"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **536**   Page 97 of 117
05/01/2015 19:35:26

Cl **01**　　*SC* **1.5**　　　　　*P* **4**　　　*L* **39**　　　# 537

Anslow, Pete　　　　　　　　　Ciena

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

The text:
"ABBR expanded version
[abbreviations use paragraph tag AcrList,ac]"
is spurious text from the 802.3 template and should be removed.

SuggestedRemedy

Delete:
"ABBR expanded version
[abbreviations use paragraph tag AcrList,ac]"

Proposed Response　　　*Response Status* **O**

Cl **01**　　*SC* **1.5**　　　　　*P* **5**　　　*L* **1**　　　# 538

Anslow, Pete　　　　　　　　　Ciena

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

The text on pages 5 and 6 of the draft is from the 802.3 template with helpful instructions for the editors. It starts with:
"Notes for editors (not to be included in the published draft)" and yet it is in the published draft!

SuggestedRemedy

Delete the text on pages 5 and 6 of the draft.

Proposed Response　　　*Response Status* **O**

Cl **30**　　*SC* **30**　　　　　*P* **8**　　　*L* **3**　　　# 539

Anslow, Pete　　　　　　　　　Ciena

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

The text immediately below the Clause 30 title is helpful text from the 802.3 template and should not have been included in the draft.
Same issue for Clause 45 on Page 10

SuggestedRemedy

Delete:
"[Insert the headings and changes to Clause 30 below. For any existing heading, figure, table or equation include the cross-reference marker from Clause 30 in the base standard (as has been done for the Clause 30 heading above).]"

Delete equivalent text in Clause 45.

Proposed Response　　　*Response Status* **O**

Cl **30**　　*SC* **30.3.2.1.2**　　　*P* **8**　　　*L* **11**　　　# 540

Anslow, Pete　　　　　　　　　Ciena

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

The editing instructions for 30.3.2.1.2, 30.3.2.1.3, and 30.5.1.1.2 are all "change", but to use this change instruction, at least some of the existing text of the changed section must be present.
An "Insert" editing instruction is more appropriate here.

SuggestedRemedy

For 30.3.2.1.2 make the editing instruction:
"Insert 100BASE-T1 PHY type into "APPROPRIATE SYNTAX" section of 30.3.2.1.2 after 100BASE-T2:" and remove the underline from the inserted text.

For 30.3.2.1.3 make the editing instruction:
"Insert 100BASE-T1 PHY type into "APPROPRIATE SYNTAX" section of 30.3.2.1.3 after 100BASE-T2:" and remove the underline from the inserted text.

For 30.5.1.1.2 make the editing instruction:
"Insert 100BASE-T1 MAU type into "APPROPRIATE SYNTAX" section of 30.5.1.1.2 after 100BASE-TXFD:" and remove the underline from the inserted text.

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **540**

Page 98 of 117
05/01/2015 19:35:26

Cl **45**   *SC* **45.2.1**   *P* **10**   *L* **9**   *#* 541

Anslow, Pete   Ciena

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

The editing instruction for Table 45-3 is changing an existing row and then inserting 4 new rows. This can't really be done with a change instruction.

SuggestedRemedy

Change the editing instruction to:
"Change the identified reserved row in Table 45-3 and insert four new rows immediately above the changed row as follows (unchanged rows not shown):"
Show the changed row as:
"1.18092103 through 1.32767 Reserved" with 1809 in strikethrough font and 2103 underlined.
Show the four inserted rows in normal font.
The four entries in the Subclause column should be cross-references and the middle one is incorrect.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1**   *P* **10**   *L* **17**   *#* 542

Anslow, Pete   Ciena

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

The register names shown in Table 45-3 do not match the register names used later in the draft. Table 45-3 has:
100BASE-T1 control
100BASE-T1 status
100BASE-T1 test mode

The subclauses that define them have:
100BASE-T1 PMA/PMD control
100BASE-T1 PMA/PMD status
100BASE-T1 PMA/PMD test control

SuggestedRemedy

Use the same name for each register in Table 45-3 as is used in the definition of the register contents.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.7.4**   *P* **11**   *L* **6**   *#* 543

Anslow, Pete   Ciena

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

The editing instruction "Insert the following row into Table 45-9:" needs to say where the insertion should be made.
The entry in the "Description location" column should be a cross-reference

Same issues for 45.2.1.7.5

SuggestedRemedy

Change the editing instruction to:
"Insert the following row above the row for 10GBASE-KR in Table 45-9 (unchanged rows not shown):"

In 45.2.1.7.5, change the editing instruction to:
"Insert the following row above the row for 10GBASE-KR in Table 45-10 (unchanged rows not shown):"

In both cases make the entry in the "Description location" column a cross-reference.

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.10**   *P* **12**   *L* **3**   *#* 544

Anslow, Pete   Ciena

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

The editing instruction says: "Insert the following rows into Table 45-13 in place of the reserved row for bit 1.11.11:"

Firstly, there is no row for just 1.11.11, and secondly "Insert ... in place of ..." isn't an insert, it is a replace.

SuggestedRemedy

As it can't be done as a simple replacement, change the editing instruction to:
"Change the reserved row in Table 45-13 and insert a new row immediately below the changed row as follows (unchanged rows not shown):"
Show the changed row as:
"1.11.15:112 Reserved Ignore on read RO" with the last "1" in strikethrough font and the "2" underlined and the existing row underneath as currently.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **544**   Page 99 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:26
SORT ORDER: Comment ID

Cl **45**   *SC* **45.2.1.2001.1**   *P* **12**   *L* **40**   *#* 545
Anslow, Pete   Ciena

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

Headings in 45.2.1 that describe the functions of bits (level 5 headings) end with the bit designation in brackets.
The name in the heading should match the name given in the table as much as possible.

SuggestedRemedy

Add "(1.2100.15)" at the end of the heading for 45.2.1.2001.1 if retained.
Change the title of 45.2.1.2001.2 to:
"100BASE-T1 MASTER/SLAVE config value (1.2100.14)"

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2002**   *P* **13**   *L* **10**   *#* 546
Anslow, Pete   Ciena

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

Table 45-2002 defines bit 1.2101.2, but ignores all of the other bits in the register. Same issue in Table 45-2003.

Also, footnotes a and b should be a single footnote:
"RO = Read only, LL = Latching low"

SuggestedRemedy

Define the remaining bits in Tables 45-2002 and 45-2003 as "Reserved for future use".
Make footnotes a and b a single footnote:
"RO = Read only, LL = Latching low"

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2002.2**   *P* **13**   *L* **23**   *#* 547
Anslow, Pete   Ciena

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

Registers are defined using level 4 headings, bits are defined using level 5 as here. The implication of this heading numbering is that register 1.2102 is part of register 2010.

SuggestedRemedy

Change the heading number to 45.2.1.2003
For some reason the next level 5 heading is already 45.2.1.2003.1 which it shouldn't be as it should not have forced numbering.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96**   *P* **15**   *L* **1**   *#* 548
Anslow, Pete   Ciena

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

Clause 96 contains some characters in underline font and others in strikethrough font.
This is not appropriate for a new clause.
Example are at:
Page 18, line 35
Page 18, line 37 (looks like a space in strikethrough font)
Page 24, line 34
Page 26, lines 40 and 42
etc.

SuggestedRemedy

Search for these attributes in FrameMaker and remove them throughout Clause 96.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.1**   *P* **15**   *L* **24**   *#* 549
Anslow, Pete   Ciena

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

In "Provide a Bit Error Ratio of less than or equal to 1e-10 over..."
The IEEE style is not to capitalise Bit Error Ratio and to use the form 10-10 with the "-10" as a superscript and the "-" as an en dash (Ctrl-q Shft-p)

SuggestedRemedy

Change:
"Provide a Bit Error Ratio of less than or equal to 1e-10 over..." to:
"Provide a bit error ratio of less than or equal to 10-10 over..." with the "-10" as a superscript and the "-" as an en dash (Ctrl-q Shft-p)

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **549**   Page 100 of 117
05/01/2015 19:35:26

Cl **96**　　*SC* **96.1.2**　　　　*P* **15**　　*L* **44**　　# 550
Anslow, Pete　　　　　　　　　Ciena

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

The text that starts:
"The specification features that enable achieving the objectives are:"
is not appropriate for an Ethernet specification document. (It is more appropriate to a contribution justifying the choices to be made).

SuggestedRemedy

Remove the quoted text and items a) and b).

Proposed Response　　　*Response Status* **O**

Cl **00**　　*SC* **0**　　　　*P*　　*L*　　# 551
Anslow, Pete　　　　　　　　　Ciena

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

twisted pair should be hyphenated as "twisted-pair"

SuggestedRemedy

Change all occurrences of "twisted pair" to "twisted-pair"

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.1.2.3**　　　*P* **16**　　*L* **17**　　# 552
Anslow, Pete　　　　　　　　　Ciena

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

In "...PMA transmits over _each wire pair_." there appear to be spurious underscore characters (or underlined spaces).

Also in "e) Robust delimeters for Start-of_stream..."

SuggestedRemedy

Remove them.

Proposed Response　　　*Response Status* **O**

Cl **00**　　*SC* **0**　　　　*P* **17**　　*L* **1**　　# 553
Anslow, Pete　　　　　　　　　Ciena

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

The draft contains multiple figures that use colour.
Since the IEEE style guide (Table 1) says:
"Color in figures shall not be required for proper interpretation of the information." the colour should not be needed and it is inconsistent with the rest of the 802.3 standard.

There is also coloured text in 96.5.4.2 which is also inconsistent with the rest of the 802.3 standard.

SuggestedRemedy

Remove the colour from all figures.
Remove the colour from the text in 96.5.4.2

Proposed Response　　　*Response Status* **O**

Cl **00**　　*SC* **0**　　　　*P* **17**　　*L* **1**　　# 554
Anslow, Pete　　　　　　　　　Ciena

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

The draft contains several figures that are bitmaps rather than FrameMaker drawings. This is not desirable because:
Bitmaps tend to make the resulting pdf larger than it needs to be.
The text in the figure is not searchable
Any change to the figure needed in a revision of the standard means that the figure has to be re-drawn.

This applies to Figures: 96-17, 96-18, 96-19, 96-21, the Figure in 96B.1, the Figure in 96B.1.1

SuggestedRemedy

Re-draw these figures in FrameMaker (without using colour).

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **554**

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05/01/2015 19:35:26

Cl **96**   *SC* **96**   *P* **24**   *L* **32**   # 555
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
Clause 96 of the draft is not consistent in its use of fonts.

SuggestedRemedy
Change all normal text in Clause 96 to use Paragraph Tag T,Text with 10 pt Times New Roman font.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.3**   *P* **24**   *L* **37**   # 556
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
Minus signs in IEEE documents use an en dash

SuggestedRemedy
change the "-" in "(+1, 0, -1)" to an en dash (Ctrl-q Shft-p).
Change any other minus signs in the draft to be an en dash

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96**   *P* **34**   *L* **18**   # 557
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
The tables in Clause 96 do not use the correct format

SuggestedRemedy
Change the format of all tables to be the "IEEE" format available in the 802.3 template including the use of the default font (9 pt Times New Roman)

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.4.2**   *P* **53**   *L* **1**   # 558
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
96.5.4.2 includes some MATLAB code. If people are expected to be able to use this code, then it needs a copyright release as per the example in 40.6.1.2.4

SuggestedRemedy
Add a copyright release as per 40.6.1.2.4:
"Copyright release for MATLAB code: Users of this standard may freely reproduce the MATLAB code in this subclause so it can be used for its intended purpose."

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.7**   *P* **58**   *L* **24**   # 559
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
Per the IEEE style guide, "The value of a quantity shall be expressed by an Arabic numeral followed by a space and the appropriate unit name or symbol."
So, "15m UTP" should be "15 m UTP" where the space between the number and the unit is a non-breaking space (Ctrl space)

SuggestedRemedy
Change "15m UTP" to "15 m UTP" where the space between the number and the unit is a non-breaking space (Ctrl space).
In Figure 96-24, change "15m" to "15 m"
In 96.7.1, 96.7.2 b), c) and d) change "15m" to "15 m"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.7.1**   *P* **58**   *L* **52**   # 560
Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **X**
The IEEE Style Manual 12.2 e) says "Dashes should never be used because they can be misconstrued as subtraction signs."
Also, in "in the range of [90 ohm - 110 ohm] (nominal 100 ohm)" there doesn't seem to be a good reason to have the square brackets.

SuggestedRemedy
Change:
"in the range of [90 ohm - 110 ohm] (nominal 100 ohm)" to:
"in the range of 90 ohm to 110 ohm (nominal 100 ohm)"

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **560**   Page 102 of 117
05/01/2015 19:35:26

Cl **96**   *SC* **96.10.1**   *P* **62**   *L* **8**   # 561
Anslow, Pete   Ciena

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

The text that follows "...is claimed to conform to Clause 96, " should exactly match the clause title.

Same for the clause title in the top row of the table in 96.10.2.2 and the text after "PICS proforma tables for " in the heading of 96.10.4
The text should be "Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 100BASE-T1"

Also, in the table in 96.10.2.2 "802.3xx-201x" should be "802.3bw-201x"

SuggestedRemedy

In 96.10.1 change:
"conform to Clause 96, Physical Medium Attachment (PMA)..." to:
"conform to Clause 96, Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA)..."

In the top row of the table in 96.10.2.2, change:
"IEEE Std 802.3xx-201x, Clause 96, Physical Medium Attachment (PMA)..." to:
"IEEE Std 802.3bw-201x, Clause 96, Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA)..." and in the third row change "802.3xx-201x" to "802.3bw-201x"

In the heading of 96.10.4, change:
"PICS proforma tables for Physical Medium Attachment (PMA)..." to:
"PICS proforma tables for Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA)..."

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **17**   # 562
Anslow, Pete   Ciena

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

Subclause 1.4 starts with:
"For the purposes of this document, the following terms and definitions apply."

1.4.x Automotive Cabling defines a term "Automotive Cabling" that is not used in the draft.
Since it is not used, it should not be defined here.

SuggestedRemedy

Delete the definition starting: "1.4.x Automotive Cabling:"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96**   *P* **29**   *L* **20**   # 563
Anslow, Pete   Ciena

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

The IEEE Style Manual says that the font size in Figures should be at least 8 pt.
Several diagrams in Clause 96 have font sizes that are very much smaller than this.

SuggestedRemedy

Re-draw figures with font sizes smaller than 8 pt.
This is particularly needed for Figures 96-6, and 96-9

Proposed Response   *Response Status* **O**

Cl **30**   *SC* **30.5.1.1.11**   *P* **8**   *L* **36**   # 564
Anslow, Pete   Ciena

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

30.5.1.1.11 in either IEEE Std 802.3-2012 or in the P802.3bx revision draft D2.0 is:
aBIPErrorCount not aMediaAvailable
aMediaAvailable is 30.5.1.1.4.

Also, the editing instruction says "Change the first paragraph in BEHAVIOUR DEFINED AS section of 30.5.1.1.11 as follows:", but the first paragraph is:
"If the MAU is a 10M b/s link or fiber type (FOIRL, 10BASE-T, 10BASE-F), then this is equivalent to the link test fail state/low light function. For an AUI, 10BASE2, 10BASE5, or 10BROAD36 MAU, this indicates whether or not loopback is detected on the DI circuit. The value of this attribute persists between packets for MAU types AUI, 10BASE5, 10BASE2, 10BROAD36, and 10BASEFP."
which is all about 10 Mb/s, so is inappropriate.

The third paragraph is about 100 Mb/s, so this seems a better place to add the text.

SuggestedRemedy

Change the heading number to be: 30.5.1.1.4 aMediaAvailable
Change the editing instruction to:
Change the third paragraph in BEHAVIOUR DEFINED AS section of 30.5.1.1.4 as follows:
Show the existing third paragraph text in normal font and the added text in underline font.
Make "Figure 96-6" a cross-reference.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **564**   Page 103 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:26
SORT ORDER: Comment ID

Cl **45**　　　*SC* **45.2.1.1**　　　　　*P* **10**　　　*L* **25**　　　# `565`

Anslow, Pete　　　　　　　　　　Ciena

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

There does not seem to be any useful change made to Table 45-4. The only difference from the in-force version is that the entry "x 1 x x = Reserved" is missing.
The editing instruction "Change Table 45-4 as follows:" would require the whole table to be shown, not just one row.

SuggestedRemedy

If some change is required to these speed selection bits, change the editing instruction to:
"Change the 1.0.5:2 row of Table 45-4 as follows:"
Show all changes from the existing row with strikethrough and underline font.
Also, change footnote a to: "R/W = Read/Write, SC = Self-clearing" as per the in-force table.

Proposed Response　　　*Response Status* **O**

Cl **45**　　　*SC* **45.2.1.6**　　　　　*P* **10**　　　*L* **44**　　　# `566`

Anslow, Pete　　　　　　　　　　Ciena

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

The proposed change made to Table 45-7 re-uses bit combinations that have already been allocated by IEEE Std 802.3bk-2013:
0 1 1 1 1 1 = 10/1GBASE-PRX-U4
0 1 1 1 1 0 = 10GBASE-PR-U4
0 1 1 1 0 1 = 10/1GBASE-PRX-D4
0 1 1 1 0 0 = 10GBASE-PR-D4

The editing instruction "Change Table 45-7 as follows:" would require the whole table to be shown, not just one row.
The proposed change does not show the existing text in this row of the table.

SuggestedRemedy

Start with the row for bits 1.7.5:0 in the revision project draft and show changes with respect to that.
Either show the whole of Table 45-7 or modify the editing instruction as per another comment regarding Table 45-4.

Proposed Response　　　*Response Status* **O**

Cl **45**　　　*SC* **45.2.1.2001**　　　*P* **12**　　　*L* **33**　　　# `567`

Anslow, Pete　　　　　　　　　　Ciena

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

In Table 45-2001, bit 1.2100.15:
" 1 = Enable MASTER-SLAVE manual configuration
 0 = Reserved for future use"
doesn't do anything. As defined, the only allowed value is 1.
45.2.1.2001.1 is consistent with this as it says what happens if this bit is set to 1, but does not say what happens if it is zero.

If the intention is to use this bit for some extra feature in the future, then this can be done by simply marking the bit as Reserved for future use. Existing implementations will return "0" for this bit, so 0 can be assigned to the current behaviour in the future and "1" assigned to the new behaviour.

Same issue for bits 1.2100.3:0 0000 is the only valid response and that is the default anyway.

Also, "0 0 0 x = Reserved for future use" should be "0 0 1 x = Reserved for future use" and "0 0 0 1 = Reserved for future use" is also needed.

Also, footnotes a and b should be a single footnote:
"RO = Read only, R/W = Read/Write"

SuggestedRemedy

Either expand the definitions of bits 1.2100.15 and 1.2100.3:0 to include more than one possibility or mark these bits as "Reserved for future use"
Fix the other issues if choosing the first option.

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **567**　　　Page 104 of 117
05/01/2015 19:35:26

Cl **45**   *SC* **45.2.1.2002.1**   *P* **13**   *L* **20**   # 568
Anslow, Pete   Ciena

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

This says: "This bit is identical to bit 1.1.2, when operating mode is set to 100BASE-T1."
Firstly, it is unclear what the "operating mode" means. Does it mean if bits 1.7.5:0 are set to the value chosen for 100BASE-T1?
Secondly, if this bit is identical to bit 1.1.2, what is the point of defining it?

SuggestedRemedy

For this definition to be useful, the bit needs to do something other than being identical to bit 1.1.2. Either say what this is or remove the register.
In the former case, also clarify what "operating mode" means

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001.2**   *P* **12**   *L* **48**   # 569
Anslow, Pete   Ciena

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

It is customary to add a PICS item to match each subclause containing "shall". This applies to 45.2.1.2001.2 and 45.2.1.2002.1

SuggestedRemedy

Add PICS items corresponding to the requirements of 45.2.1.2001.2 and 45.2.1.2002.1

Proposed Response   *Response Status* **O**

Cl **01**   *SC* **1.4.x**   *P* **4**   *L* **29**   # 570
Anslow, Pete   Ciena

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

The text following "1.4.x PHY-Initialization:" is not a definition of what the term PHY-Initialization means, it is a justification for not using auto-negotiation followed by a requirement on the time taken which is not appropriate for a definition - see IEEE style guide.

SuggestedRemedy

If a definition for "PHY-Initialization" is needed at all, replace the current text with a definition of what it means and add a cross-reference to the appropriate heading in Clause 96.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.10**   *P* **63**   *L* **6**   # 571
Anslow, Pete   Ciena

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

The PICS proforma is empty

SuggestedRemedy

Fill out the PICS proforma

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2.2**   *P* **16**   *L* **17**   # 572
Wu, Peter   Marvell

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

typo

SuggestedRemedy

line 17 change "over _each wire pair_." to "over each wire pair."
line 23 change "Start-of_stream delimiter" to "Start-of-Stream delimiter"

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **49**   *L* **9**   # 573
Wu, Peter   Marvell

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

The font size is too big for the table.

SuggestedRemedy

fix font size, also check correct font and style are used.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **50**   *L* **13**   # 574
Wu, Peter   Marvell

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

The wrong font size and paragraph spacing is used throughout Clause 96.

SuggestedRemedy

fix font size, fix spacing, also check correct font and style are used.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **574**   Page 105 of 117
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   05/01/2015 19:35:26
SORT ORDER: Comment ID

Cl **96**   *SC* **96.5.2**   *P* **50**   *L* **13**   # 575
Wu, Peter   Marvell

Comment Type **E**   *Comment Status* **X**
The font size is too big for the table.

SuggestedRemedy
fix font size, also check correct font and style are used.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2.2**   *P* **16**   *L* **11**   # 576
Wu, Peter   Marvell

Comment Type **ER**   *Comment Status* **X**
66.666 is missing bar over last digit.

SuggestedRemedy
fix this instance and other instances.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.4**   *P* **45**   *L* **5**   # 577
Wu, Peter   Marvell

Comment Type **ER**   *Comment Status* **X**
remove BroadR-Reach references

SuggestedRemedy
delete multiple instances of BroadR-Reach in Clause 96

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1**   *P* **48**   *L* **25**   # 578
Wu, Peter   Marvell

Comment Type **ER**   *Comment Status* **X**
sections 96.5.1 EMC Requirements, 96.5.1.1 Immunity --- DPI test and 96.5.1.2 Emission --- 150Ohm conducted emission test while the PMA is related, these are tests of the complete solution including the MDI not the PMA

SuggestedRemedy
These sections should be placed in 96.8 MDI Specification or as a new stand alone section.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.7.2**   *P* **60**   *L* **18**   # 579
Wu, Peter   Marvell

Comment Type **ER**   *Comment Status* **X**
Normative requirements on the cabling for PSANEXT and PSAACRF should be in section 96.7.1 Cabling system characteristics.

SuggestedRemedy
Create new subsections for PSANEXT and PSAACRF in 96.7.1.

Proposed Response   *Response Status* **O**

Cl **96A**   *SC* **96A**   *P* **65**   *L* **1**   # 580
Wu, Peter   Marvell

Comment Type **ER**   *Comment Status* **X**
This section provides no new information beyond what is provided in Clause 45.

SuggestedRemedy
Delete this section.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **580**   Page 106 of 117
05/01/2015 19:35:26

Cl **96B**   *SC* **96B**   *P* **67**   *L* **1**   # 581
Wu, Peter   Marvell

Comment Type   **ER**   *Comment Status* **X**
    This section describes two test modes but has no normative requirements to support them.

SuggestedRemedy
    Suggest adding PCS loopback requirement in PCS section, enabled by 3.0.14.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.9**   *P* **61**   *L* **17**   # 582
Wu, Peter   Marvell

Comment Type   **T**   *Comment Status* **X**
    The delay constraint requires more precision on the measurement.

SuggestedRemedy
    add the text "The reference point for all MDI measurements is the peak point of the mid-cell transition corresponding to the reference code-bit, as measured at the MDI."

Proposed Response   *Response Status* **O**

Cl **45**   *SC* **45.2.1.2001.1**   *P* **12**   *L* **41**   # 583
Wu, Peter   Marvell

Comment Type   **TR**   *Comment Status* **X**
    The name and description indicate this is a configuration bit, but the R/W column indicates RO (read only).

SuggestedRemedy
    change RO to R/W.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.4.7.2**   *P* **48**   *L* **7**   # 584
Wu, Peter   Marvell

Comment Type   **TR**   *Comment Status* **X**
    The requirement for link up time is 100ms as defined in 1.4.x PHY initialization, page 4, line 32, But maxwait_timer is still defined as "The timer shall expire 1406 ms +- 18 ms if config = MASTER or 656 ms +-9 ms if config = SLAVE."

SuggestedRemedy
    The timer should expire TBD ms (smaller than 100ms) if config = MASTER or TBD (smaller than 100ms) if config =SLAVE.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.6**   *P* **57**   *L* **41**   # 585
Wu, Peter   Marvell

Comment Type   **TR**   *Comment Status* **X**
    This section incorrectly references Clause 22 as the MDIO type.

SuggestedRemedy
    change text "specified in 22.2.4" to "specified in Clause 45"
    line 51 add a reference to 45.2.1.2001 100BASE-T1 PMA/PMD control register (Register 1.19002100)
    delete sections 96.6.3 MDC (management data clock) and 96.6.4 MDIO (management data input/output)

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.8.2**   *P* **60**   *L* **42**   # 586
Wu, Peter   Marvell

Comment Type   **TR**   *Comment Status* **X**
    this section also lacks specs on common mode output voltage and common-mode-to-differential-mode impedance balance.

SuggestedRemedy
    Suggest starting with 1000BASE-T spec.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **586**   Page 107 of 117
05/01/2015 19:35:26

Cl **96**　　*SC* **96.8.2**　　　　　　*P* **60**　　*L* **42**　　　# 587
Wu, Peter　　　　　　　　　　　　Marvell

Comment Type **TR**　　*Comment Status* **X**
　　this section also lacks any specification for MDI fault tolerance.

SuggestedRemedy
　　Suggest starting with 1000BASE-T spec.

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.8.2**　　　　　　*P* **60**　　*L* **42**　　　# 588
Wu, Peter　　　　　　　　　　　　Marvell

Comment Type **TR**　　*Comment Status* **X**
　　this section lacks a spec on ANEXT from adjacent connectors.

SuggestedRemedy
　　Suggest starting with PSANEXT spec with 6dB added margin.

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.3.2.4.8**　　　　*P* **48**　　*L* **50**　　　# 589
Dawe, Piers　　　　　　　　　　　Mellanox

Comment Type **E**　　*Comment Status* **X**
　　Need to do equations per style guide.

SuggestedRemedy
　　Number the equations.
　　Explain what's in the equation:
　　"where Scr is ...
　　n is ...
　　and [caret] denotes ...

Proposed Response　　　*Response Status* **O**

Cl **96**　　*SC* **96.5.2**　　　　　　*P* **48**　　*L* **50**　　　# 590
Dawe, Piers　　　　　　　　　　　Mellanox

Comment Type **E**　　*Comment Status* **X**
　　Test Modes

SuggestedRemedy
　　Test modes
　　Correct other rogue capitals, e.g. Test Fixtures.

Proposed Response　　　*Response Status* **O**

Cl **99**　　*SC* **99**　　　　　　　*P* **ii**　　*L*　　　　# 591
Dawe, Piers　　　　　　　　　　　Mellanox

Comment Type **E**　　*Comment Status* **X**
　　The term "Automotive Cable" is not used anywhere else in this draft.

SuggestedRemedy
　　Delete.

Proposed Response　　　*Response Status* **O**

Cl **01**　　*SC* **1.4.x**　　　　　　*P* **4**　　*L* **18**　　　# 592
Dawe, Piers　　　　　　　　　　　Mellanox

Comment Type **ER**　　*Comment Status* **X**
　　The term "Automotive Cabling" is not used anywhere else in this draft. There are many
　　kinds of cabling in cars; trying half-heartedly to hijack two regular words for just one kind of
　　cabling is not viable.

SuggestedRemedy
　　Delete the definition.

Proposed Response　　　*Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **592**

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05/01/2015 19:35:26

Cl **96**   *SC* **96.5.4.5**   *P* **56**   *L* **37**   *#* 593
Dawe, Piers   Mellanox

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

Don't use a table if there is only one entry. The entry in the Mode column isn't right anyway.

SuggestedRemedy

Complete the sentence:
...PHY in MASTER mode shall be within the range 66.666' MHz ± 100 ppm.
Delete the table.
Also in 96.5.5.2.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.7.1.4**   *P* **59**   *L* **46**   *#* 594
Dawe, Piers   Mellanox

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

TCL and TCTL aren't explained, or used anywhere else in this draft.
Sdc11, Sdc22, Sdc21 and Sdc12 aren't used anywhere else in this draft

SuggestedRemedy

Remove or spell out TCL and TCTL.
Maybe Sdc11, Sdc22, Sdc21 and Sdc12 should appear in the equation?

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1.1**   *P* **48**   *L* **37**   *#* 595
Dawe, Piers   Mellanox

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

This says "The Direct Power Injection (DPI) test method according to IEC62132-4 shall be used to measure..." but 802.3 is not a test spec. Any "shall" must be applied to the interface under test, not to the test itself. There is no requirement to do the test, only to comply with the criterion it would measure, if carried out. Also, what constitutes a pass?

SuggestedRemedy

This should say something like:
The sensitivity of the PMA's receiver to radiofrequency CM RF noise shall [some criterion, e.g. be more than x dBm, or comply with Class X in the test method] if measured according to the Direct Power Injection (DPI) method of IEC 62132-4.

Note no "DUT". We don't specify devices, we specify interfaces, with everything behind them, not just the PMA. Is an IC spec suitable for specifying an equipment anyway?

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.1.1**   *P* **48**   *L* **42**   *#* 596
Dawe, Piers   Mellanox

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

This says "The 150Ohm test method according to IEC61967-4 shall be used to measure..." but 802.3 is not a test spec. Any "shall" must be applied to the interface under test, not to the test itself. There is no requirement to do the test, only to comply with the criterion it would measure, if carried out. Also, what constitutes a pass?

SuggestedRemedy

This should say something like:
The emission of the PMA transmitter to its electrical environment shall [some criterion, e.g. be less than x dBm, or comply with Class X in the test method] if measured according to the 1 ohm/150 ohms direct coupling method of IEC 61967-4.

Note no "DUT". We don't specify devices, we specify interfaces, with everything behind them, not just the PMA. Is an IC spec suitable for specifying an equipment anyway?

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.5.2**   *P* **49**   *L* **63**   *#* 597
Dawe, Piers   Mellanox

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

This says "These modes shall be enabled by setting a 3-bit control register." What register is this? Management is optional, and the way of doing management is also optional. So this can't be "shall".

SuggestedRemedy

These modes may be selected by setting bits x to y of [some PMA/PMD control register (Register n.m.n; see 45.a.b.c)

Maybe 100BASE-T1 PMA/PMD control register?

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **597**   Page 109 of 117
05/01/2015 19:35:26

Cl **96**   *SC* **96.5.3**   *P* **50**   *L* **19**   # 598
Dawe, Piers   Mellanox

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

This says "The following fixtures, or their equivalents... shall be used for measuring..." But 802.3 is not a test spec. Any "shall" must be applied to the interface under test, not to the test itself. There is no requirement to do the test, only to comply with the criterion it would measure, if carried out.

SuggestedRemedy

Change "shall be used" to "are used". (The shalls go in the text for each test, which refers to the relevant test fixture.)

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.3**   *P* **50**   *L* **20**   # 599
Dawe, Piers   Mellanox

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

This says "The tolerance of resistors shall be +/- 0.1%." But 802.3 is not a test spec. Tolerancing a load is the test implementer's problem - he must look after his tolerances according to e.g. the accuracy or cost that he needs. Compare e.g. 85.8.3.5 Test fixture - no tolerances. We have been over this in multiple projects.
And see another comment on this section.

SuggestedRemedy

Delete "The tolerance of resistors shall be +/- 0.1%."

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.6.2**   *P* **58**   *L* **6**   # 600
Dawe, Piers   Mellanox

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

While this tells us what ought to happen (master meets slave) we need to cover the other cases.

SuggestedRemedy

Explain what happens if master meets master or slave meets slave.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.4**   *P* **52**   *L* **1**   # 601
Dawe, Piers   Mellanox

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

This says "Where a load is not specified, the transmitter shall meet the requirements of this section with a 100 ohm (the value can vary within +/-1% range) resistive differential load connected to each transmitter output." But 802.3 is not a test spec. Tolerancing a load is the test implementer's problem - he must look after his tolerances according to e.g. the accuracy or cost that he needs, and writing it this way means that at least conceptually, an implementation must pass with 99 ohm and with 101 ohm - twice as many tests, not necessary.

SuggestedRemedy

Delete "(the value can vary within +/-1% range)". If they are 1%-critical, tweak the limits for e.g. droop.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.4.7.2**   *P* **48**   *L* **7**   # 602
Dai, Shaoan   Marvell

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

The requirement for link up time is 100ms as defined in 1.4.x PHY initialization, page 4, line 32, But maxwait_timer is still defined as "The timer shall expire 1406 ms +- 18 ms if config = MASTER or 656 ms +-9 ms if config = SLAVE

SuggestedRemedy

The timer should expire TBD ms (smaller than 100ms) if config = MASTER or TBD (smaller than 100ms) if config =SLAVE.

Proposed Response   *Response Status*   **O**

Cl **00**   *SC* **0**   *P*   *L*   # 603
Kobayashi, Shigeru   TE Connectivity

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

Clause: Intellectual Property in the PAR
Subclause: 6.1.a
Page: 2
An apostrophe is attached on the top of the explanation.

SuggestedRemedy

If it is unnecessary, it should be removed.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **603**   Page 110 of 117
05/01/2015 19:35:26

Cl **96**   *SC* **Figure 96-15—PHY Co**   *P* **45**   *L*   # 604

Carlson, Steven   High Speed Design.co

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

Typo in link_control = DISABLE + pma_reset=ON state has DISABLE BroadR-Reach TRANSMITTER.

SuggestedRemedy

Replace text with DISABLE 1000BASE-T1 TRANSMITTER

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.5.3 Alien Crosstal**   *P* **57**   *L* **3234**   # 605

Carlson, Steven   High Speed Design.co

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

Typo in Figure 96-23—Alien Crosstalk Noise Rejection Test Setup text

NOISE SOURCE (BroadR-Reach 100Mbps COMPLIANT TRANSMITTER SENDING IDLES NONSYNCHRONOUS TO THE BroadR-Reach TRANSMITTER UNDER TEST

SuggestedRemedy

Change to

NOISE SOURCE (100BASE-T1 100Mbps COMPLIANT TRANSMITTER SENDING IDLES NONSYNCHRONOUS TO THE 100BASE-T1 TRANSMITTER UNDER TEST)

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.5.3 Alien Crosstal**   *P* **57**   *L* **2530**   # 606

Carlson, Steven   High Speed Design.co

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

In Figure 96-23—Alien Crosstalk Noise Rejection Test Setup, resistor values are in red with the symbol "O". This does not conform to Std. 802.3-2012 usage.

SuggestedRemedy

Change resistor values to black with Omega symbol for Ohm.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.7**   *P* **58**   *L* **26**   # 607

Brillhart, Theodore   Fluke Networks

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

Clearly the intention of the diagram is to include the end connectors in the link. So change the diagram text to explicitly include them in the description between the link segment boundaries, or remove the reference to the inline connectors; i.e. both inline and end connectors or niether. To be consistant with the subclause introductory text (lines 24 and 25).
Also, suggest to bring the link segment boundary markers closer to the link locations that they are intended to contain (i.e. make them longer).

SuggestedRemedy

Diagram text -
From: Link segment 15m 1-pair balanced copper cabling with four inline connectors.
To: Link segment 15m 1-pair balanced copper cabling with four inline connectors and two end connectors.
-Or-
From: Link segment 15m 1-pair balanced copper cabling with four inline connectors.
To: Link segment 15m 1-pair balanced copper cabling.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.7.1**   *P* **59**   *L* **2**   # 608

Brillhart, Theodore   Fluke Networks

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

If mode conversion loss is considered to be a transmission parameter then it should be included in this sentence. If not, then include it in the previous sentence.

SuggestedRemedy

From: The transmission parameters of the link segment include insertion loss, return loss, and characteristic impedance.
To: The transmission parameters of the link segment include insertion loss, return loss, mode conversion loss, and characteristic impedance.
-Or-
From: The transmission parameters contained in this specification ensure that a 1-pair UTP cable link segment will provide a reliable medium.
To: The transmission and mode conversion parameters contained in this specification ensure that a 1-pair UTP cable link segment will provide a reliable medium.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **608**   Page 111 of 117
05/01/2015 19:35:26

Cl **99** *SC* *P* **1** *L* **20** # 609
Maguire, Valerie Siemon 1

Comment Type **E** *Comment Status* **X**
Extraneous "." at the end of the amendment title. This error occurs on page 1 and 15 of the .pdf file.

SuggestedRemedy
Delete "." at the end of the amendment title.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.2001.2** *P* **12** *L* **45** # 610
Hidaka, Yasuo Fujitsu Laboratories of

Comment Type **E** *Comment Status* **X**
Section title "100BASE-T1 MASTER/SLAVE Operation" is inconsistent with Table 45-2001.

SuggestedRemedy
Change the section title as follows:
100BASE-T1 MASTER-SLAVE config value

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.2001.2** *P* **12** *L* **47** # 611
Hidaka, Yasuo Fujitsu Laboratories of

Comment Type **E** *Comment Status* **X**
The text is inconsistent with Table 45-2001.

SuggestedRemedy
Replace "manual config bit" with "manual config enable bit".

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2.3** *P* **16** *L* **17** # 612
Hidaka, Yasuo Fujitsu Laboratories of

Comment Type **E** *Comment Status* **X**
"over_each wire pair_" looks odd.

SuggestedRemedy
Change it with "over each wire pair."

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2.3** *P* **16** *L* **23** # 613
Hidaka, Yasuo Fujitsu Laboratories of

Comment Type **E** *Comment Status* **X**
"Start-of_stream delimiter (SSD) End-of-Stream (ESD)" seems odd.

SuggestedRemedy
Change it with "Start-of-Stream (SSD), End-of-Stream (ESD)".

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.3.3.1.1** *P* **38** *L* **45** # 614
Hidaka, Yasuo Fujitsu Laboratories of

Comment Type **E** *Comment Status* **X**
A period (.) is missing.

SuggestedRemedy
Add a period(.).

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.4.2** *P* **43** *L* **9** # 615
Hidaka, Yasuo Fujitsu Laboratories of

Comment Type **E** *Comment Status* **X**
In Figure 96-13, PMA_UNITDATA_request should be PMA_UNITDATA.request.

SuggestedRemedy
Change it with PMA_UNITDATA.request.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **615**

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05/01/2015 19:35:26

Cl **96**   *SC* **96.4.7.2**   *P* **48**   *L* **8**   # 616
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     The indentation is not good.

SuggestedRemedy
     Fix the indentation.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.2**   *P* **49**   *L* **9**   # 617
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     Top margin of the table cells are too small.

SuggestedRemedy
     Increase the top margin of the table cells of Table 96-4.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.2**   *P* **49**   *L* **28**   # 618
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     Reference to section Transmitter Timing Jitter is needed.

SuggestedRemedy
     Add a reference to the section.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.2**   *P* **49**   *L* **45**   # 619
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     A period should not come to the beginning of a line.

SuggestedRemedy
     Move the period to the end of previous line.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.2**   *P* **50**   *L* **4**   # 620
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     Top margin of table cells of Table 96-5 is too small.

SuggestedRemedy
     Increase the top margin of table cells.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.4.2**   *P* **53**   *L* **49**   # 621
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     Inside of the for loop is not indented.

SuggestedRemedy
     Add indentation from Page 53 Line 49 to Page 54 Line 9.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.4.4**   *P* **55**   *L* **19**   # 622
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     Top margin of the table cells of Table 96-6 is too small.

SuggestedRemedy
     Increase the top margin of the table cells of Table 96-6.

Proposed Response   *Response Status*   **O**

Cl **96**   *SC* **96.5.4.5**   *P* **56**   *L* **36**   # 623
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type   **E**   *Comment Status*   **X**
     Table caption is missing.

SuggestedRemedy
     Add a table caption.
     Add a reference for the table caption to text.

Proposed Response   *Response Status*   **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **623**   Page 113 of 117
05/01/2015 19:35:26

Cl **96**　　　*SC* **96.5.5.2**　　　　　　*P* **57**　　　*L* **6**　　　# 624
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

Comment Type　**E**　　　*Comment Status*　**X**
　Table caption is missing.

SuggestedRemedy
　Add a table caption.
　Add a reference for the table caption to text.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.5.5.3**　　　　　　*P* **57**　　　*L* **14**　　　# 625
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

Comment Type　**E**　　　*Comment Status*　**X**
　An edit result from "of" to "to" is left.

SuggestedRemedy
　Clean up the edit result from "of" to "to".

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.7.1.3**　　　　　　*P* **59**　　　*L* **37**　　　# 626
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

Comment Type　**E**　　　*Comment Status*　**X**
　A grammer error.

SuggestedRemedy
　Remove the first "shall".
　It should be "The return loss of the link segment ..."

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.7.2**　　　　　　*P* **60**　　　*L* **5**　　　# 627
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

Comment Type　**E**　　　*Comment Status*　**X**
　An edit result of removing a comma with strike bar is left.

SuggestedRemedy
　Clean up the edit result.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.10.2.2**　　　　　*P* **62**　　　*L* **44**　　　# 628
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

Comment Type　**E**　　　*Comment Status*　**X**
　The table external border lines have inconsistent thickness.

SuggestedRemedy
　Make the horizontal border lines at line 44 and 46 thick.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96B.1**　　　　　　*P* **67**　　　*L* **39**　　　# 629
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

Comment Type　**E**　　　*Comment Status*　**X**
　Figure caption is missing for Figure 96B-1.

SuggestedRemedy
　Add a figure caption for Figure 96B-1.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96B.1**　　　　　　*P* **67**　　　*L* **30**　　　# 630
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

Comment Type　**E**　　　*Comment Status*　**X**
　The box of 100BASE-T1 PCS Transmit is marked as selected.

SuggestedRemedy
　De-select the box of 100BASE-T1 PCS Transmit.

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **630**　　Page 114 of 117
05/01/2015 19:35:27

Cl **96**   *SC* **96B.1.1**   *P* **67**   *L* **46**   # 631
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type **E**   *Comment Status* **X**
Section level is inconsistent between internal and external loopback functions.

SuggestedRemedy
Change the section of External Loopback Function as 96B.2.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96B.1.1**   *P* **68**   *L* **19**   # 632
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type **E**   *Comment Status* **X**
Caption is missing for Figure 96B-2.

SuggestedRemedy
Add a caption to Figure 96B-2.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96B.1.1**   *P* **68**   *L* **6**   # 633
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type **E**   *Comment Status* **X**
Highlight of spell checker is left.

SuggestedRemedy
Remove highlight of spell checker from 3 locations.

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.1**   *P* **15**   *L* **20**   # 634
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type **T**   *Comment Status* **X**
An objective regarding for automotive environment is not included.

Therefore, I do not understand some technical choices, such as not to support auto negotiation.

I think the objective should refer to the automotive environment in the same way as the ojbective of this project.

SuggestedRemedy
Add an objective "Support 100Mb/s operation in automotive environment (e.g. EMC, temperature) over a single balanced twisted pair".

Proposed Response   *Response Status* **O**

Cl **96**   *SC* **96.1.2**   *P* **15**   *L* **30**   # 635
Hidaka, Yasuo   Fujitsu Laboratories of

Comment Type **T**   *Comment Status* **X**
It is not clear why it refers to 1000BASE-T regarding to the number of pairs, because its data rate is different.

I think reference to 100BASE-T4 or 100BASE-TX is more appropriate regarding to the number of pairs, because their data rate is same.

SuggestedRemedy
Replase line 30 and 31 with the following:
IEEE 802.3 100BASE-T4 PHY specified in Clause 23 operates over four pairs of balanced cable channel. IEEE 802.3 100BASE-TX PHY specified in Clause 25 operates over two pairs of balanced cable channel. In contrast, the 100BASE-T1 PHY operates over a one pair channel.

Proposed Response   *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **635**   Page 115 of 117
05/01/2015 19:35:27

Cl **96**　　　*SC* **96.1.2**　　　　　　*P* **15**　　　*L* **43**　　　# 636
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

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

Relationships with 100BASE-T PHY specified in clause 21, repeater specified in clause 27, and auto negotiation specified in clause 28 are expected in this section, but missing.

SuggestedRemedy

Add brief description about relationships with 100BASE-T PHY specified in clause 21, repeater specified in clause 27, andd autonegotiation specified in clause 28 in this section.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.4.4**　　　　　　*P* **45**　　　*L* **5**　　　# 637
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

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

BroadR-Reach is not understandable.

SuggestedRemedy

Provide a definition of BroadR-Reach, or change the term.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.5.2**　　　　　　*P* **49**　　　*L* **3**　　　# 638
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

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

This is not the section to define the control register.

SuggestedRemedy

Move the definition of 3-bit control register Table 96-4 to clause 45, and add a reference to the register at line 3.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.5.2**　　　　　　*P* **50**　　　*L* **14**　　　# 639
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

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

Reference to section PCS transmit symbol mapping is required.

SuggestedRemedy

Add a reference to the section.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.5.3**　　　　　　*P* **51**　　　*L* **45**　　　# 640
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

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

The disturbing signal Vd is not clear.

SuggestedRemedy

Provide more description about the disturbing signal.
Add the genetor equipment to Figure 96-18.

Proposed Response　　　*Response Status*　**O**

Cl **96**　　　*SC* **96.5.4.2**　　　　*P* **54**　　　*L* **3**　　　# 641
Hidaka, Yasuo　　　　　　　　　Fujitsu Laboratories of

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

Right matrix divide is odd here.
It is probably typo of left matrix divide.

SuggestedRemedy

Change "tx1/X" with "tx1\X".

Proposed Response　　　*Response Status*　**O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **641**　　　Page 116 of 117
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Cl **96** *SC* **96.5.5.3** *P* **57** *L* **26** # 642

Hidaka, Yasuo   Fujitsu Laboratories of

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

500 O (two locations) and 100 O are odd.

SuggestedRemedy

Change them with "500 Ohm" and "100 Ohm".

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.5.5.3** *P* **57** *L* **32** # 643

Hidaka, Yasuo   Fujitsu Laboratories of

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

BroadR-Reach is not defined.

SuggestedRemedy

Provide a definition of BroadR-Reach, or change the term (2 locations).

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.1.2.3** *P* **30** *L* **17** # 644

Marris, Arthur   Cadence Design Syst

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

over _each wire pair_.

SuggestedRemedy

Change to "over each wire pair." Also fix "Start-of_stream".

Proposed Response *Response Status* **O**

Cl **96** *SC* **96.2.1.1** *P* **32** *L* **26** # 645

Marris, Arthur   Cadence Design Syst

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

Double ".."

SuggestedRemedy

Delete one of them and scrb the document for other occurences. Also scrub document for
" -by" and replace with "by" for example see page 32 line 37.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.1** *P* **24** *L* **33** # 646

Marris, Arthur   Cadence Design Syst

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

It is not clear what the change to "speed selection" in Table 45–4—PMA/PMD control 1
register bit definitions should be.

SuggestedRemedy

Please fix or delete any reference to this sub clause.

Proposed Response *Response Status* **O**

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **646**

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