Cl **78** *SC* **78.5** *P* **58** *L* **3** # 1
Hajduczenia, Marek Charter

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

Extra full stop at the end of editorial note

SuggestedRemedy

Remove extra full stop

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **25** # 2
Hajduczenia, Marek Charter

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

There is no definition of high-speed mode and low-speed mode anywhere in Clause 98 at this time.

SuggestedRemedy

Before (or at) the first use, explain (through referenece, for example) what the high speed and low speed modes are

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **25** # 3
Hajduczenia, Marek Charter

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

Compound adjectives: low-speed and high-speed

SuggestedRemedy

Please use "high-speed mode" and "low-speed mode"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.5** *P* **64** *L* **6** # 4
Hajduczenia, Marek Charter

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

Extra symbol in transition between ABILITY DETECT and TRANSMIT DISABLE states

SuggestedRemedy

Remove reference symbol
Similar changes needed in Figure 98-8, Figue 98-9, and Figure 98-10 (seems like change bars were enabled?)

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.5** *P* **64** *L* **6** # 5
Hajduczenia, Marek Charter

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

Unclear set of changes to Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10

SuggestedRemedy

Figure is being wholesale replaced; it would be great to have a hint what has been changed - either describe it in the editorial instruction / note, or alternatively draw a red box around what has been changed.

Proposed Response *Response Status* **O**

Cl **00** *SC* **A** *P* **195** *L* **1** # 6
Hajduczenia, Marek Charter

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

Annex A has no content

SuggestedRemedy

Remove Annex A unless explicitly needed

Proposed Response *Response Status* **O**

Cl **98** *SC* **98B.3** *P* **197** *L* **15** # 7
Hajduczenia, Marek Charter

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

Table 98B-1 should show rows A3-A25 and associated values are inserted i.e., with underline - this is new content

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3.3** *P* **28** *L* **1** # 8
Hajduczenia, Marek Charter

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

Missing PICS content. Multiple SHALL statements were added to text in Clause 22, but PICS are missing.

SuggestedRemedy

Per comment. Applicable to 22.3.3, 22.3.4.1, 22.3.4.2

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **30** *L* **25** # 9
Hajduczenia, Marek Charter

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

Extra symbol in oResourceTypeID block. Extra full stop in oEXTENSION block

SuggestedRemedy

Remove garbage from referenced blocks

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **29** *L* **8** # 10
Hajduczenia, Marek Charter

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

Unclear set of changes to Figure 30-3

SuggestedRemedy

Figure is being wholesale replaced; it would be great to have a hint what has been changed - either describe it in the editorial instruction / note, or alternatively draw a red box around what has been changed.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.1** *P* **163** *L* **6** # 11
Huszak, Gergely Kone

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

Resistor is off

SuggestedRemedy

Make it a polygon

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.2** *P* **160** *L* **47** # 12
Huszak, Gergely Kone

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

Column headers of "Table 147–2—DME Timings" are off (do not harmonize with those "Table 147–3—MDI impedance limit parameters")

SuggestedRemedy

Make the following changes:
- "" (first column) to "Parameter name"
- "Parameters" to "Description"
- "Min" to "Minimum value"
- "Typ" to "Nominal value"
- "Max" to "Maximum value"
- "Units" to "Unit of measure"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147** *P* **164** *L* **4** # 13

Huszak, Gergely Kone

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

The "value unit +/- tolerance_value tolerance_unit" format of literals is not harmonized everywhere

SuggestedRemedy

Make sure all places the following format (not all parts are always present):
valueNBSunitNBS+/-NBStolerance_valueNBStolerance_unit
where:
- NBS is a non-breaking space
- +/- is the single-character version

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.3** *P* **151** *L* **3** # 14

Huszak, Gergely Kone

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

Table format is not harmonized with the rest of the clause

SuggestedRemedy

Put em-dash to 16 places to under "Special function" for 0-F

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **21** # 15

Huszak, Gergely Kone

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

Text of text "Note:" does not harmonize with the rest of the clauses

SuggestedRemedy

Remove bold attribute from "Note:"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.1** *P* **163** *L* **6** # 16

Huszak, Gergely Kone

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

Fonts and alignments in the figure are off

SuggestedRemedy

Make the fonts same within this figure and other figures in the clause, and fix text alignments

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.2** *P* **168** *L* **38** # 17

Lusted, Kent Intel

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

The numerator in Equation 147-6 is usually large.

SuggestedRemedy

Consider making the numerator uniform in size with the fonts in the denominator.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **15** # 18

Lusted, Kent Intel

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

Using an uppercase "B" for bit is uncommon. Usually, it is "bit" not "Bit". There are approximately 43 instances of "Mb/s" in 802.3 Revision Draft 3.2 section 4. There are no instances of "MBit/s".

SuggestedRemedy

change "16.667 MBit/s" to "16.667 Mb/s".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **48** # 19
Lusted, Kent Intel

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

The paragraph starting on P86 line 48 is almost identical to the paragraph starting on Page 86 line 36. It may be a duplicate since both reference 10BASE-T1L PHY and optional EEE support.

SuggestedRemedy

Consider removing one of the 2 paragraphs cited above.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **15** # 20
Lusted, Kent Intel

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

Using an uppercase "B" for bit is uncommon. Usually, it is "bit" not "Bit". There are approximately 33 instances of "kb/s" in 802.3 Revision Draft 3.2 section 4. There are no instances of "kBit/s".

SuggestedRemedy

change "625 kBit/s" to "625 kb/s"

Proposed Response *Response Status* **O**

Cl **00** *SC* **FM** *P* **13** *L* **56** # 21
Anslow, Pete Ciena

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

The variable copyright_year is set to 2017 in the TOC file

SuggestedRemedy

Set the variable copyright_year to 2018 in the TOC file

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.3** *P* **24** *L* **5** # 22
Anslow, Pete Ciena

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

There are references in the draft that are not already in the base standard that should be added here. For example: IEC 62368-1 is referenced on page 133, line 52.

SuggestedRemedy

Scrub the draft for references that are not already in the base standard and add them to 1.3

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **24** *L* **12** # 23
Anslow, Pete Ciena

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

The definition numbering has been changed in the revision project. Also, P802.3bt D3.7 is deleting the definition for IPort (1.4.294), which affects the numbering for PLCA

SuggestedRemedy

Change the editing instruction on line 12 to:
"Insert the 10BASE-T1L and 10BASE-T1S definitions into the list after 1.4.50 10BASE-T as follows:"
re-number the definitions for 10BASE-T1L and 10BASE-T1S to be 1.4.50a and 1.4.50b, respectively.
Change the editing instruction on line 20 to:
"Insert the Physical Layer Collision Avoidance (PLCA) definition into the list after 1.4.389 physical header subframe (PHS) (re-numbered from 1.4.390 due to the deletion of 1.4.294 by IEEE Std 802.3bt-201x) as follows:"
re-number the definition for PLCA to be 1.4.389a

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **9** # 24
Anslow, Pete Ciena

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

The editing instruction says "Insert new third and fourth paragraphs after existing second paragraph in 22.2.4 as follows:" but this is a change to the second paragraph.

SuggestedRemedy

Change the editing instruction on line 10 to:
"Change the second paragraph in 22.2.4 as follows:"

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.5** *P* **25** *L* **44** # 25

Anslow, Pete Ciena

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

The editing instruction says "Change the second paragraph in 22.2.2.5 as follows:" but this is 22.2.2.5.
Similar issue with:
page 25, line 43, "22.2.5" should be "22.2.2.5"
page 26, line 3, "22.2.8" should be "22.2.2.8"
page 26, line 30, "22.2.11" should be "22.2.2.11"
page 26, line 40, "22.2.12" should be "22.2.2.12"

SuggestedRemedy

In the editing instructions on:
page 25, line 43, change "22.2.5" to "22.2.2.5"
page 26, line 3, change "22.2.8" to "22.2.2.8"
page 26, line 30, change "22.2.11" to "22.2.2.11"
page 26, line 40, change "22.2.12" to "22.2.2.12"

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.8** *P* **26** *L* **10** # 26

Anslow, Pete Ciena

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

The editing instruction says "... Table 22-1 ..." but this is Table 22-2.

SuggestedRemedy

In the editing instruction, change "... Table 22-1 ..." to "... Table 22-2 …".

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3** *P* **27** *L* **1** # 27

Anslow, Pete Ciena

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

The PICS for Clause 22 is in 22.8 not 22.3

SuggestedRemedy

Force the numbering of the level 2 heading for the PICS to be 22.8 and this should renumber all of the following subclauses.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3.2.1** *P* **27** *L* **20** # 28

Anslow, Pete Ciena

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

The table in 22.3.2.1 (should be 22.8.2.1) does not match the table in the base standard. The spelling of enquiries has changed to inquiries, the notes are different, etc.

SuggestedRemedy

Replace the table with the version from the base standard.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3.2.2** *P* **27** *L* **35** # 29

Anslow, Pete Ciena

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

In the table in 22.3.2.2 (should be 22.8.2.2) "IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.

SuggestedRemedy

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3.3** *P* **28** *L* **1** # 30

Anslow, Pete Ciena

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

With a blank placeholder for changes to the Clause 22 PICS, this draft is not ready to move to Sponsor ballot, hence this is a required comment.

SuggestedRemedy

Either remove this PICS section from the draft or populate it with changes.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **29** *L* **6** # 31
Anslow, Pete Ciena

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

Containment is 30.2.3

SuggestedRemedy

Change heading to "30.2.3 Containment"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **31** *L* **1** # 32
Anslow, Pete Ciena

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

The capabilities and packages for IEEE 802.3 Management are specified in Table 30–1a through Table 30–10. Table 30-1c contains rows for 30.3.8. As 30.3.9 PLCA managed object class is being added by this draft, Table 30-1a should be modified to include new rows for this object class.

SuggestedRemedy

Add rows to Table 30-1c for 30.3.9 PLCA managed object class

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.2.1.2** *P* **31** *L* **9** # 33
Anslow, Pete Ciena

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

Editing instructions should be explicit as to where the editing should be performed.

SuggestedRemedy

Change the editing instruction to:
"Insert the following new entries in the APPROPRIATE SYNTAX section of 30.3.2.1.2 after the entry for “10 Mb/s”:"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.3** *P* **31** *L* **14** # 34
Anslow, Pete Ciena

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

After 30.3.2.1.2, there is a heading for 30.3.3, but there are no changes in 30.3.3, so this heading is not needed.

SuggestedRemedy

Remove the heading for 30.3.3

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9** *P* **31** *L* **15** # 35
Anslow, Pete Ciena

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

The editing instruction lists several subclauses to be added, but misses some more out.

SuggestedRemedy

Change the editing instruction to:
"Insert 30.3.9 (and its subclauses) after 30.3.8 as follows:"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9** *P* **31** *L* **19** # 36
Anslow, Pete Ciena

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

The 802.3 web page:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#mib
says: "In IEEE Std 802.3 the spelling 'behaviour' is used throughout MIB clauses and their associated Annexes, and in any references to the behaviours defined there."

SuggestedRemedy

Change "behaviors" to "behaviours" on line 20
Change "behavior" to "behaviour" on lines 34 and 48

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.1.1** *P* **31** *L* **32** # 37

Anslow, Pete Ciena

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

In 30.3.9.1.1 "Clause 22" and "Clause 148" should be cross-references.
In 30.3.9.2.1 "Clause 148" and "Clause 147" should be cross-references.
In 30.3.9.2.2 "Clause 147" should be a cross-reference.

SuggestedRemedy

In 30.3.9.1.1 make "Clause 22" and "Clause 148" cross-references.
In 30.3.9.2.1 make "Clause 148" and "Clause 147" cross-references.
In 30.3.9.2.2 make "Clause 147" a cross-reference.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.1** *P* **31** *L* **50** # 38

Anslow, Pete Ciena

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

The text: "in MDIO interface register ability bit 3.2292.13 and enable bit 3.2291.13;" is rather unhelpful regarding where to find these bits and is missing a "."

SuggestedRemedy

Change to: "in MDIO interface register PLCA ability bit 3.2292.13 (see 45.2.3.68f.1) and PLCA enable bit 3.2291.13 (see 45.2.3.68e.3).;"
Note that the Clause 45 references have been corrected according to the latest base standard as per another comment.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.2** *P* **32** *L* **5** # 39

Anslow, Pete Ciena

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

"acPLCAReset" should not be allowed to split across two lines.

SuggestedRemedy

Place the cursor in the word, then Esc n s (separate key presses)

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.2** *P* **32** *L* **8** # 40

Anslow, Pete Ciena

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

The text: "in MDIO interface register ability bit 3.2292.13 and enable bit 3.2291.13." is rather unhelpful regarding where to find these bits.

SuggestedRemedy

Change to: "in MDIO interface register PLCA ability bit 3.2292.13 (see 45.2.3.68f.1) and PLCA enable bit 3.2291.13 (see 45.2.3.68e.3)."
Note that the Clause 45 references have been corrected according to the latest base standard as per another comment.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.2** *P* **33** *L* **9** # 41

Anslow, Pete Ciena

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

Editing instructions should be explicit as to where the editing should be performed. Also, after 100BASE-T does not seem like an appropriate place to put 10 Mb/s entries.

SuggestedRemedy

Change the editing instruction to:
"Insert the following new entries in the APPROPRIATE SYNTAX section of 30.5.1.1.2 after the entry for “10BASE-T”:"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.4** *P* **33** *L* **15** # 42

Anslow, Pete Ciena

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

Editing instructions should be explicit as to where the editing should be performed.

SuggestedRemedy

Change the editing instruction to:
"Change the fourth sentence of the third paragraph of the BEHAVIOUR DEFINED AS section of 30.5.1.1.4 as follows:"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.6.1.1.5** *P* **33** *L* **28** # 43
Anslow, Pete Ciena

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

Editing instructions should be explicit as to where the editing should be performed.

SuggestedRemedy

Change the editing instruction to:
"Insert the following new entries in the APPROPRIATE SYNTAX section of 30.6.1.1.5 after the entry for “10BASE-T”:"

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **34** *L* **1** # 44
Anslow, Pete Ciena

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

Recent IEEE published amendments have not included any blank pages between sections and the IEEE 802.3 FrameMaker template was modified in this respect some time ago.

SuggestedRemedy

Remove blank pages between sections.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.173** *P* **35** *L* **51** # 45
Anslow, Pete Ciena

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

The heading for Register 1.2100 is now 45.2.1.185 in IEEE 802.3-2018 and the corresponding table is Table 45-149

SuggestedRemedy

Change the heading for Register 1.2100 to 45.2.1.185 and change Table 45-141 to Table 45-149 (and also the reference to it in the editing instruction).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.185.2** *P* **36** *L* **14** # 46
Anslow, Pete Ciena

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

Subclause 45.2.1.185.2 in the base standard describes the functions of bits 1.2100.3:0, so needs to be modified for the addition of 10BASE-T1S and 10BASE-T1L.

SuggestedRemedy

Bring 45.2.1.185.2 in to the draft and show modifications to account for the addition of 10BASE-T1S and 10BASE-T1L.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a** *P* **36** *L* **15** # 47
Anslow, Pete Ciena

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

The numbering in the editing instruction: "Insert 45.2.1.174a through 45.2.1.174h after 45.2.1.174 as follows:" does not match the numbering in the base standard and includes more subclauses than are in the current draft.
Also, the inserted Table numbers are not correct.

SuggestedRemedy

Change the editing instruction to: "Insert 45.2.1.186a through 45.2.1.186f after 45.2.1.186 as follows:"
Change the inserted tables from Table 45-142a through Table 45-142f to be Table 45-150a through Table 45-150f

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58a** *P* **44** *L* **26** # 48
Anslow, Pete Ciena

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

The numbering in the editing instruction: "Insert 45.2.3.58a through 45.2.3.58i after 45.2.3.58 as follows:" does not match the numbering in the base standard and includes more subclauses than are in the current draft.
Also, the inserted Table numbers are not correct.

SuggestedRemedy

Change the editing instruction to: "Insert 45.2.3.68a through 45.2.3.68f after 45.2.3.68 as follows:"
Change the inserted tables from Table 45-220a through Table 45-220f to be Table 45-237a through Table 45-237f

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c** *P* **47** *L* **1** # 49

Anslow, Pete Ciena

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

In the title of 45.2.3.58c and the title of Table 45-220c "10BASET1S-PLCA" should be "10BASE-T1S PLCA"

SuggestedRemedy

In the title of 45.2.3.58c and the title of Table 45-220c, change "10BASET1S-PLCA" to "10BASE-T1S PLCA"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c** *P* **47** *L* **27** # 50

Anslow, Pete Ciena

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

In the title of 45.2.3.58d and the title of Table 45-220d "10BASET1S-PLCA" should be "10BASE-T1S PLCA"

SuggestedRemedy

In the title of 45.2.3.58d and the title of Table 45-220d, change "10BASET1S-PLCA" to "10BASE-T1S PLCA"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **50** *L* **8** # 51

Anslow, Pete Ciena

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

Most of page 50 is blank.

SuggestedRemedy

move the editing instruction and the start of the PICS table on to page 50.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **51** *L* **1** # 52

Anslow, Pete Ciena

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

Editing instructions should be explicit as to where the editing should be performed.

SuggestedRemedy

Change the editing instruction to: "Insert PICS items MM152 through MM192 at the end of the table in 45.5.3.3 as follows:"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.7** *P* **54** *L* **3** # 53

Anslow, Pete Ciena

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

Editing instructions should be explicit as to where the editing should be performed.

SuggestedRemedy

Change the editing instruction to: "Insert PICS items RM158 through RM186 at the end of the table in 45.5.3.7 as follows:"

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.1.3.3.1** *P* **57** *L* **20** # 54

Anslow, Pete Ciena

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

The order of entries in Table 78-1 was established via Comment #65 against P802.3cj D2.0. See:
http://www.ieee802.org/3/cj/comments/P8023-D2p0-Comments-Final-byID.pdf#page=14
According to these rules the order after insertion of the two new PHYs should be:
10BASE-T1S
10BASE-Te
10BASE-T1L
...

SuggestedRemedy

Change the editing instruction to:
"Insert a row for 10BASE-T1S at the top and a row for 10BASE-T1L after 10BASE-Te in Table 78–1 as follows (unchanged rows not shown):"
Change the excerpt from Table 78-1 to be:
"10BASE-T1S", "147"
ellipsis row
"10BASE-T1L", "146"
ellipsis row

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.2** *P* **57** *L* **39** # 55

Anslow, Pete Ciena

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

The new row for 10BASE-T1L is being inserted into a table column that already contains numbers above 10 000. In this case according to the rules set out in:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers
any four digit numbers should contain a space as a thousands separator.

SuggestedRemedy

In Table 78-2 replace "2000" with "2 000" and replace "2100" with "2 100"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **16** # 56

Anslow, Pete Ciena

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

The 802.3 web page:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#bps
says: "only Mb/s and Gb/s should be used"

SuggestedRemedy

Change "16.667 MBit/s." to "16.667 Mb/s."
Change "625 kBit/s." to "625 kb/s."

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **26** # 57

Anslow, Pete Ciena

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

1.2.6 of the base standard says "Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance."
Also, usual practice in 802.3 is to not have a space between a number and %.

SuggestedRemedy

Show "shall be 30.0 ns ± 0.01%." as changing to "shall be 30 ns ± 0.01%."
Change "800.0 ns ± 0.005 %" to "800 ns ± 0.005%"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **60** *L* **11** # 58

Anslow, Pete Ciena

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

According to the rules set out in:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers
in columns containing numbers with 5 or more digits to the left of the decimal point, any numbers with four or more digits to the left of the decimal point contain a space as a thousands separator.
Also, according to 1.2.8 of the base standard, empty cells in a table should contain an em-dash.

SuggestedRemedy

Add an underlined space as a thousands separator to the nine numbers with 4 or more digits to the left of the decimal point in Table 98-1.
Replace the four hyphens with em-dashes

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.2** *P* **62** *L* **17** # 59

Anslow, Pete Ciena

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

According to the rules set out in:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers
"In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."

SuggestedRemedy

For the numbers with 5 digits or more in the definitions of :
"backoff_timer_[LSM]"
"blind_timer_[LSM]"
"page_test_max_timer_[LSM]"
"receive_DME_timer_[LSM]"
"silent_timer_[LSM]"
Add an underlined space as a thousands separator. (16 instances in total).

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6** *P* **68** *L* **2** # 60

Anslow, Pete Ciena

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

In the text "A PHY supporting only one Auto-Negotiation speed shall implement the behavior as shown in Figure 98–7, Figure 98–8, Figure 98–9, and Figure 98–10 without any further modification, using the associated timer
values …", the phrase "without any further modification" does not belong.
A PHY supporting two different Auto-Negotiation speeds implements Figure 98-11.
A PHY supporting only one Auto-Negotiation speed implements Figure 98–8, Figure 98–9, and Figure 98–10.
There is no modification involved.

SuggestedRemedy

Delete "without any further modification,"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6** *P* **68** *L* **7** # 61

Anslow, Pete Ciena

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

In Figure 98-11, the transition from the AN COMPLETE state to the SPEED DETECTION state is labelled in two places: at the bottom "an_link_good = FALSE" and at the top "failure_timer expired".
Since the AN COMPLETE state includes "stop failure_timer", the top label seems to be incorrect.

SuggestedRemedy

Delete the label "failure_timer expired" from the top right of the diagram.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 62

Anslow, Pete Ciena

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

Comment #10 against D1.0 of the 2008 revision:
http://www.ieee802.org/3/axay/comments/D1.0/802.3ay_D1p0.pdf
changed all instances of 'state machine' to 'state diagram' (except in deprecated text).
This draft contains 48 instances of "state machine" and 77 instances of "state diagram"

SuggestedRemedy

Change all instances of 'state machine' to 'state diagram' throughout the draft.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6.3** *P* **69** *L* **28** # 63

Anslow, Pete Ciena

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

Incorrect multiply symbol used

SuggestedRemedy

replace with correct multiply symbol (Ctrl-q 0)

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.6.2a** *P* **70** *L* **6** # 64

Anslow, Pete Ciena

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

Space missing from Autonumber format. "98.6.2aMajor" should be "98.6.2a Major"

SuggestedRemedy

Fix Autonumber format.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.6.2a** *P* **70** *L* **11** # 65

Anslow, Pete Ciena

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

The convention for PICS items is that when another item depends on whether or not this item is supported, its name is preceded by a "*".

SuggestedRemedy

In the table in 98.6.2a, change:
"ANSM" to "*ANSM"
"HSM" to "*HSM"
"LSM" to "*LSM"
"10T1L" to "*10T1L"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.6.3** *P* **70** *L* **31** # 66

Anslow, Pete Ciena

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

The PICS proforma tables in 98.6.3 do not have the appropriate entries in the "Support" column.
Same issue in 146.11.4.1.3, 146.11.4.2.1, 146.11.4.2.2, 146.11.4.3, 148.5.4.1, 148.5.4.2, and 148.5.4.3.

SuggestedRemedy

In 98.6.3, 146.11.4.1.3, 146.11.4.2.1, 146.11.4.2.2, 146.11.4.3, 148.5.4.1, 148.5.4.2, and 148.5.4.3 for items with status of:
"M" change the Support entry to "Yes [ ]"
"O" change the Support entry to "Yes [ ] No [ ]"
"Something:M" change the Support entry to "Yes [ ] N/A [ ]"
"Something:O" change the Support entry to "Yes [ ] No [ ] N/A [ ]"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.6.8** *P* **71** *L* **36** # 67

Anslow, Pete Ciena

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

According to the rules set out in:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers
"In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."
Despite these being table entries, they are in the form of text , so it seems appropriate to use this version of the rule.

SuggestedRemedy

In item SD4a, SD12a, SD13a, and SDE15A add a non-breaking space (Ctrl space) as a thousands separator in all numbers above 9999.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.6.8** *P* **72** *L* **39** # 68

Anslow, Pete Ciena

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

Item "SDE15a" should be "SD15a"

SuggestedRemedy

Change "SDE15a" to "SD15a"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104** *P* **73** *L* **1** # 69

Anslow, Pete Ciena

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

The title of Clause 104 is incorrect.

SuggestedRemedy

Change the title to: "Power over Data Lines (PoDL) of Single Balanced Twisted-Pair Ethernet"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.1** *P* **73** *L* **23** # 70

Anslow, Pete Ciena

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

The comma and space after "Type D" have been added, so should be underlined

SuggestedRemedy

underline the added comma and space.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.4.1** *P* **73** *L* **33** # 71

Anslow, Pete Ciena

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

It is Table 104-3 that is being modified

SuggestedRemedy

Change the table number to Table 104-3

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.4.1** *P* **73** *L* **47** # 72

Anslow, Pete Ciena

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

In item 5 of Table 104-3 in the base standard, the unit is "uF" and the maximum value is "2.64".
In the draft, the units has been changed to "nF" and the value for A, B, C, and D changed to "200" without any change marking.

SuggestedRemedy

Show the unit as "uF" in strikethrough font and "nF" in underline font (where u is the Greek letter mu)
Show the value for A, B, C, and D as "2.64" in strikethrough font and "200" in underline font.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.4.1** *P* **74** *L* **13** # 73

Anslow, Pete Ciena

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

The width of the "Symbol" column in Table 104-1 is such that two entries wrap across two lines with just "E" on the second line.

SuggestedRemedy

Increase the width of the "Symbol" column to avoid the wrap.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.6** *P* **75** *L* **6** # 74

Anslow, Pete Ciena

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

It is Table 104-4 that is being modified

SuggestedRemedy

Change the table number to Table 104-4.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.6.3** *P* **75** *L* **38** # 75

Anslow, Pete Ciena

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

Usual practice in 802.3 is to not have a space between a number and %.

SuggestedRemedy

Change to "± 1%."

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.5.6** *P* **76** *L* **36** # 76

Anslow, Pete Ciena

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

In Table 104-7, the Additional information entry is shown against Item 1 Types A, B, C, E and Item 2 Types A, B, C but not Type E.

SuggestedRemedy

Assuming that 104.5.6.4 is appropriate for Input voltage dV/dt for Type E, merge the Type E Additional information cell in with the others.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.5.6** *P* **76** *L* **40** # 77

Anslow, Pete Ciena

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

In Table 104-7, Item 6b should have "uF" in the Unit column and "All classes" in the Additional information column (as per the base standard).
Also, the base standard has "All" in the PD type column for Item 6b

SuggestedRemedy

Add "uF" to the Unit cell (where u is the Greek letter mu).
In the upper of the two PD Type cells, show "All" in strikethrough font and "A, B, C, D" in underline font.
Merge the two "Additional information" cells and put "All classes" in the merged cell.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.5.6.4** *P* **77** *L* **8** # 78

Anslow, Pete Ciena

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

"Figure 104 9" should be "Figure 104–9"

SuggestedRemedy

Change "Figure 104 9" to "Figure 104–9"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.5.6.4** *P* **77** *L* **15** # 79
Anslow, Pete Ciena

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

"Clause 146" should be a cross-reference

SuggestedRemedy

Make "Clause 146" a cross-reference

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.7.1.3** *P* **79** *L* **41** # 80
Anslow, Pete Ciena

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

In Table 104-8, the added column heading is "PD type", which is inconsistent with the heading change in Table 104-7

SuggestedRemedy

Change to "PD Type"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.7.1.3** *P* **80** *L* **27** # 81
Anslow, Pete Ciena

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

1.2.6 of the base standard says "Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance."

SuggestedRemedy

Remove the trailing zeros from the numbers in Table 104-8 (4 numbers)

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.9** *P* **82** *L* **2** # 82
Anslow, Pete Ciena

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

In the heading for 104.9, the title of Clause 104 is incorrect.

SuggestedRemedy

Change:
"Clause 104, Reconciliation Sublayer (RS) and Media Independent Interface (MII)" to:
"Clause 104, Power over Data Lines (PoDL) of Single Balanced Twisted-Pair Ethernet"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.9.4** *P* **82** *L* **25** # 83
Anslow, Pete Ciena

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

In the heading for 104.9.4, "ICS" should be "PICS"

SuggestedRemedy

In the heading for 104.9.4, change "ICS" to "PICS"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.9.4.3** *P* **82** *L* **42** # 84
Anslow, Pete Ciena

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

"Clause 146" should be a cross-reference

SuggestedRemedy

Make "Clause 146" a cross-reference

Proposed Response *Response Status* **O**

Cl **146** *SC* **146** *P* **85** *L* **2** # 85

Anslow, Pete Ciena

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

The heading for Clause 146 has an inappropriate footnote related to PICS proformas.

SuggestedRemedy

Remove the footnote

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1** *P* **85** *L* **9** # 86

Anslow, Pete Ciena

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

The text: "Provided in this clause are fully functional and electrical specifications for ..." doesn't make sense.

SuggestedRemedy

Change to: "Provided in this clause are functional and electrical specifications for ...".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1** *P* **85** *L* **12** # 87

Anslow, Pete Ciena

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

"10BASE-T1L" should not be split across two lines.
Same issue in 146.7.2.2

SuggestedRemedy

Replace the hyphen with a non-breaking hyphen (Esc, -, h) (three key presses)
Make the same change in 146.7.2.2 (page 132, line 13)

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **85** *L* **37** # 88

Anslow, Pete Ciena

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

"3 level" should be "3-level" when used as a compound adjective

SuggestedRemedy

Change "3 level" to "3-level"

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **89** *L* **19** # 89

Anslow, Pete Ciena

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

IEEE uses an en-dash as a minus sign rather than a hyphen.

SuggestedRemedy

Scrub the draft for hyphens used as minus signs and replace them with en-dash (Ctrl-q Shft-p). This includes:
Page 89, line 19 "BI_DA-"
Page 92, line 7
Page 98, line 19
Page 104, line 31
Table 146-1 (many instances)
Table 146-2 (7 instances)
Table 146-3 (3 instances)
Figure 146-8 (2 instances of "Rxn-5")
Figure 146-9 (many instances of "Rxn-5")
Page 113, line 26 "BI_DA-"
Page 114, line 14 "BI_DA-"
Page 115, line 9 "BI_DA-"
Page 121, line 31 and line 35
Page 124, line 40, line 53
Page 125, line 17
Table 146-5 (4 instances)
Page 133, line 7 "BI_DA-", line 42 "BI_DA-"
Table 146-8 (2 instances of "BI_DA-")
Page 141, line 25, line 29
Page 143, line 35, line 39
Figure 147-9 (6 instances of "RXn-?")
Page 159, line 38 "BI_DA-"
Page 161, line 10 "BI_DA-"
Page 162, line 29
Page 165, line 29, line 31, line 32
Page 168, line 24 "BI_DA-"
Table 147-4 (2 instances of "BI_DA-")
Figure 148-7 (2 instances of "txdn-a")
Figure 146A-1 "RX-", "TX-"
Figure 146A-2 "RX-", "TX-"
Figure 146A-3 "RX-", "TX-"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.1** *P* **101** *L* **4** # 90

Anslow, Pete Ciena

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

In Figure 146-5, the label for the centre arrow at the top of the SEND IDLE state is offset to the left so that it appears to relate to the transition from the bottom of the state.

SuggestedRemedy

Move the label to be centred on the middle arrow.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.5** *P* **104** *L* **29** # 91

Anslow, Pete Ciena

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

When the triplet "TAn, TBn, TCn" is introduced in 146.3.3.2 and every where else, the "n"'s are subscripted. Here they are not.

SuggestedRemedy

Subscript the three "n"'s in "(TAn, TBn, TCn)"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.7** *P* **104** *L* **51** # 92

Anslow, Pete Ciena

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

"shall be a sent in the following order" contains a spurious "a"

SuggestedRemedy

Change to "shall be sent in the following order".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4** *P* **115** *L* **31** # 93

Anslow, Pete Ciena

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

"10BASE-T1L" should not be split across two lines.

SuggestedRemedy

Replace the hyphen with a non-breaking hyphen (Esc, -, h) (three key presses)

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4** *P* **115** *L* **44** # 94

Anslow, Pete Ciena

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

Notes start with “NOTE—” i.e., an em-dash and no spaces before the first word of the note. Same issue with the note in 146.4.4.2, the note in 146.5.5.3, the note in 146.8.4, and the note in 147.3.3.1.

SuggestedRemedy

In 146.4.4, change "NOTE - Fast" to "NOTE—Fast"
In 146.4.4.2, change "NOTE - After" to "NOTE—After"
In 146.5.5.3, change "Note: If" to "NOTE—If"
In 146.8.4, change "Note: Typically" to "NOTE—Typically"
In 147.3.3.1, change "Note: A" to "NOTE—A"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.4** *P* **124** *L* **10** # 95

Anslow, Pete Ciena

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

Figure 146-19 and Figure 146-23 are bit maps. This makes the draft larger than it needs to be and stops the text from being searchable.

SuggestedRemedy

Replace Figure 146-19 and Figure 146-23 with vector-based versions (as per Figure 146-22 for example).

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.5.3** *P* **125** *L* **18** # 96

Anslow, Pete Ciena

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

The 802.3 standard uses capital omega rather than "ohm".

SuggestedRemedy

Change "ohm" to capital omega in:
The note in 146.5.5.3
The note in 146.8.4
The heading row of Table 146B-1 (5 instances)

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.4** *P* **130** *L* **37** # 97

Anslow, Pete Ciena

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

In "E1 or E2", the "1" and "2" should be subscripted.

SuggestedRemedy

In "E1 or E2", subscript the "1" and "2".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.4** *P* **130** *L* **44** # 98

Anslow, Pete Ciena

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

The formatting in Table 146-5 is not according to the IEEE style manual.

SuggestedRemedy

In Table 146-5:
change ".1" to "0.1" (2 instances)
"log" should be in upright font (4 instances)
The base of the log should be explicit. Replace "log" with "log10" where the "10" is a subscript.
"f" should be in italic font (6 instances)
The minus signs should be en-dashes (included in another comment)

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.5** *P* **131** *L* **19** # 99

Anslow, Pete Ciena

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

The Frequency (MHz) entry is ".1 <= f <= 20".
".1" should be "0.1" and "f" is not used anywhere, so it would be better to replace with "0.1 to 20"

SuggestedRemedy

Replace ".1 <= f <= 20 with "0.1 to 20".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.2.1** *P* **136** *L* **21** # 100

Anslow, Pete Ciena

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

Comment i-52 against the P802.3bx revision project D3.0 changed all instances of “enquiries” to "inquiries" in the PICS front sheet.

SuggestedRemedy

Change “enquiries” to "inquiries" in:
146.11.2.1
147.12.2.1
148.5.2.1
22.3.2.1 (covered in another comment).

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.2.2** *P* **136** *L* **33** # 101

Anslow, Pete Ciena

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

146.11.2.2 should be on the same page as the rest of the PICS initial text.

SuggestedRemedy

Uncheck "Keep with next" for the heading of 146.11.2.2

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.2.2** *P* **137** *L* **4** # 102

Anslow, Pete Ciena

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

"IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.

SuggestedRemedy

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.3** *P* **137** *L* **25** # 103

Anslow, Pete Ciena

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

There are two items "EEE" and it is not clear what the difference between them is.

SuggestedRemedy

If there is intended to be a difference between them, clarify what this is and give them different Item entries.
Otherwise, consolidate them into one row:
"EEE", "Energy-Efficient Ethernet capability", "146.1.1, 78", "", "Yes [ ] No [ ]"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.3** *P* **137** *L* **27** # 104

Anslow, Pete Ciena

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

The convention for PICS items is that when another item depends on whether or not this item is supported, its name is preceded by a "*".

SuggestedRemedy

In the table in 146.11.3, change:
"AN" to "*AN"
"MDIO" to "*MDIO"
"FAST" to "*FAST"
"RTDL" to "*RTDL"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.4.2.2** *P* **141** *L* **41** # 105

Anslow, Pete Ciena

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

The Item text for PMAE10 through PMAE23 is difficult to read due to being squashed.

SuggestedRemedy

Increase the width of the Item column and decrease the width of the Feature column to compensate.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.4.2.2** *P* **142** *L* **3** # 106

Anslow, Pete Ciena

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

The Status entry for Item PMAE12 is:
"ANEG:
RTDL:
MDIO:
M"
"ANEG" is undefined. This should be "AN"
It is not clear what the intent of this entry is.
The syntax for multiple elements ORed together used elsewhere (e.g., 104.9.4.4) is similar but different from that used here.
The text in 146.5.4.1 does not seem to match ORed elements: Mandatory for Auto-Negotiation or MDIO capability or 2.4 Vpp operating mode.
The syntax for multiple elements ANDed together is defined in 21.6.2 as "<item1>*<item2>:"
This seems to fit the text in 146.5.4.1 better (except that it says "If MDIO is not implemented a similar functionality shall be provided by another interface")

SuggestedRemedy

If the intent is for the conditions to be ANDed, then change the Status entry for Item PMAE12 to:
"AN*
RTDL*
MDIO:M"
If the intent is otherwise, change to some other valid entry such as:
"AN:M
RTDL:M
MDIO:M"
Increase the width of the Status column (in all of the PICS tables) and decrease the width of the Status column to compensate, so that individual elements such as MDIO:M do not wrap.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.4.3** *P* **143** *L* **15** # 107

Anslow, Pete Ciena

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

The Status entry for Item MI3 is:
"ANEG:
MDIO:
M"
"ANEG" is undefined. This should be "AN"
It is not clear what the intent of this entry is.
The syntax for multiple elements ORed together used elsewhere (e.g., 104.9.4.4) is similar but different from that used here.
The text in 146.6.2 seems to match ORed elements: Mandatory for Auto-Negotiation or MDIO capability.
Alternatively, the syntax for multiple elements ANDed together is defined in 21.6.2 as "<item1>*<item2>:"

SuggestedRemedy

If the intent is for the conditions to be ORed, then change the Status entry for Item MI3 to:
"AN:M
MDIO:M"
If the intent is otherwise, change to some other valid entry such as:
"AN*
MDIO:M"
Increase the width of the Status column (in all of the PICS tables) and decrease the width of the Status column to compensate, so that individual elements such as MDIO:M do not wrap.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.4.4** *P* **143** *L* **32** # 108

Anslow, Pete Ciena

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

All of the items in 146.11.4.4 have the same entry in the Item column.

SuggestedRemedy

Re-number them to be LMF1 through LMF5

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.4.4** *P* **143** *L* **34** # 109

Anslow, Pete Ciena

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

According to the rules set out in:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers
"In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."
Despite these being table entries, they are in the form of text , so it seems appropriate to use this version of the rule.

SuggestedRemedy

In the third item LMF1 (should be LMF3) remove the space used as a thousands separator in 8 834.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.11.4.4** *P* **143** *L* **38** # 110

Anslow, Pete Ciena

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

"10BASE-T1L" should not be split across two lines.

SuggestedRemedy

Replace the hyphen with a non-breaking hyphen (Esc, -, h) (three key presses) in 4 places in 146.11.4.4.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.2.1** *P* **98** *L* **4** # 111

Anslow, Pete Ciena

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

"22.2.2.5" should be a cross-reference.
Same issue in 147.3.2.2 (page 149, line 36)

SuggestedRemedy

Make "22.2.2.5" a cross-reference here and in 147.3.2.2 (page 149, line 36).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.5** *P* **153** *L* **50** # 112

Anslow, Pete Ciena

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

Spurious extra "figure" in "shift register is shown in figure Figure 147–6"

SuggestedRemedy

Delete "figure"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.4** *P* **164** *L* **21** # 113

Anslow, Pete Ciena

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

This says: "The measured PSD shall be between the upper and lower bounds specified in the table below."
There is no table below (and anyway the table should be specifically cross-referenced).

SuggestedRemedy

Change to: "The measured PSD shall be between the upper and lower bounds specified in 147.5.4.4.1 and 147.5.4.4.2, respectively."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.4** *P* **164** *L* **30** # 114

Anslow, Pete Ciena

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

Equation 147-1 has no upper frequency bound, so -75 dBm/Hz has to be measured to infinite frequency.

SuggestedRemedy

Add a reasonable upper bound such as 40 MHz as per Figure 147-15.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.12.1** *P* **171** *L* **7** # 115

Anslow, Pete Ciena

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

"… claimed to conform to Clause 147, clause title, shall …" should be "… claimed to conform to Clause 147, Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S, shall …"

SuggestedRemedy

Change "… claimed to conform to Clause 147, clause title, shall …" to "… claimed to conform to Clause 147, Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S, shall …"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.12.2.2** *P* **171** *L* **35** # 116

Anslow, Pete Ciena

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

"IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.
", clause title" should be ", Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S"

SuggestedRemedy

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.
Change ", clause title" to ", Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.12.3** *P* **172** *L* **1** # 117

Anslow, Pete Ciena

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

With a blank PICS section, this draft is not ready to move to Sponsor ballot, hence this is a required comment.

SuggestedRemedy

Populate the PICS section for Clause 147.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.3** *P* **173** *L* **38** # 118

Anslow, Pete Ciena

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

"Clause 90" is an external cross-reference, so should be in forest green

SuggestedRemedy

Apply Character Tag "External" to "Clause 90"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.3** *P* **174** *L* **28** # 119

Anslow, Pete Ciena

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

There is a spurious "PMA" just above the second line of the title of Figure 148-1

SuggestedRemedy

Delete it.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.3.4** *P* **177** *L* **48** # 120

Anslow, Pete Ciena

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

In "shall be the one specified in clause 22.2.1.4" the word "clause" should not be there and 22.2.1.4 should be in forest green.

SuggestedRemedy

change to "shall be the one specified in 22.2.1.4" and apply character tag "External" to "22.2.1.4".

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.3.5** *P* **178** *L* **14** # 121
Anslow, Pete Ciena

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

References to other subclauses in the 802.3 standard are not prefaced by "clause". Same issue in 148.4.3.6 and 148.4.3.7

SuggestedRemedy

In 148.4.3.5, 148.4.3.6, and 148.4.3.7 delete "clause"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **181** *L* **5** # 122
Anslow, Pete Ciena

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

"Table 22-1" should be a cross-reference.

SuggestedRemedy

Make "Table 22-1" a cross-reference.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.5.2.2** *P* **190** *L* **35** # 123
Anslow, Pete Ciena

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

"IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.

SuggestedRemedy

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.5.3** *P* **191** *L* **6** # 124
Anslow, Pete Ciena

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

The convention for PICS items is that when another item depends on whether or not this item is supported, its name is preceded by a "*".

SuggestedRemedy

In the table in 148.5.3, change:
"MII" to "*MII"
"TSSI" to "*TSSI"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.5.3** *P* **191** *L* **6** # 125
Anslow, Pete Ciena

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

In the Subclause column of the table in 148.5.3 "22" and "146" should be cross-references. Likewise, in the Value/Comment column of the table in 148.5.4.1 and the table in 148.5.4.4, "Clause 22" should be cross-references.

SuggestedRemedy

In the Subclause column of the table in 148.5.3 make "22" and "146" cross-references. In the Value/Comment column of the table in 148.5.4.1 and the table in 148.5.4.4, make "Clause 22" a cross-reference.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.5.4.3** *P* **192** *L* **26** # 126
Anslow, Pete Ciena

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

In the Value/Comment column of the table in 148.5.4.3, "See 148-1" should be "See Equation (148-1)" and "See 148-2" should be "See Equation (148-2)"

SuggestedRemedy

In the Value/Comment column of the table in 148.5.4.3, change "See 148-1" to "See Equation (148-1)" and change "See 148-2" to "See Equation (148-2)" by changing the cross-reference format to "EquationNumber" in both cases.

Proposed Response *Response Status* **O**

Cl **00** *SC* **A** *P* **195** *L* **1** # 127
Anslow, Pete Ciena

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

Either add some bibliography entries or delete Annex A before going to Sponsor ballot.

SuggestedRemedy

Either add some bibliography entries or delete Annex A before going to Sponsor ballot.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98B.3** *P* **197** *L* **11** # 128
Anslow, Pete Ciena

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

While the editing instruction for Table 98B-1 and the lack of underlining for the inserted rows is technically correct (except that it is not stated where the insertion should be), the result is rather confusing.

SuggestedRemedy

Change the editing instruction to:
"Change the row for "A3 through A26" in Table 98B-1 as follows (unchanged rows not shown):
Underline the new rows.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.20** *P* **200** *L* **24** # 129
Anslow, Pete Ciena

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

In the title of Figure 146A–1: "First possible implementation on intrinsically safe power feeding side" the word "side" is not needed.
Is this word also present in the title of Figure 146A-2 but wrapped out of sight?

SuggestedRemedy

In the title of Figure 146A–1, delete "side".
Is this word also present in the title of Figure 146A-2 delete it there also.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.20** *P* **200** *L* **50** # 130
Anslow, Pete Ciena

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

Notes start with “NOTE—” i.e., an em-dash and no spaces before the first word of the note. Also, the wording of this note should be improved.

SuggestedRemedy

Change:
"Note: Likely the second version is easier to implement within a PHY IC as the hybrid within the PHY IC needs not to be adopted to different external resistor values." to:
"NOTE—The version shown in Figure 146A-2 is probably easier to implement within a PHY IC as the hybrid within the PHY IC does not need to adapt to different external resistor values."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146B.1.1.1** *P* **204** *L* **10** # 131
Anslow, Pete Ciena

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

1.2.6 of the base standard says "Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance."
Also, two of the numbers have a comma instead of a decimal point.

SuggestedRemedy

Remove the trailing zeros from the numbers in Table 146B-1.
Change "0,0233" to "0.0233" and change "0,0294" to "0.0294"

Proposed Response *Response Status* **O**

Cl **146** SC **146B.1.2** P **205** L **11** # 132
Anslow, Pete Ciena

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

The text in Figure 146B-2 does not have a space between a number and its unit in multiple places.
Also, the IEEE Style Manual says:
"Ranges should repeat the unit (e.g., 115 V to 125 V). Dashes should never be used because they can be misconstrued as subtraction signs."

SuggestedRemedy

Change "48V" to "48 V"
Change "14-18 AWG cable," to "14 AWG to 18 AWG cable,"
Change "24V dcpower" to "24 V dc power"
Change "1000m" to "1000 m"
Change "12V" to "12 V" in 2 places
Change "200m" to "200 m" in 2 places

Proposed Response *Response Status* **O**

Cl **146** SC **146.5.7** P **125** L **29** # 133
Anslow, Pete Ciena

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

"45.2.1.1" is an external cross-reference, so it should be in forest green

SuggestedRemedy

Apply character tag "External" to "45.2.1.1"

Proposed Response *Response Status* **O**

Cl **146** SC **146.6.2** P **126** L **52** # 134
Anslow, Pete Ciena

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

"45.2.1.131" is not the correct reference for register 1.2100

SuggestedRemedy

Change "45.2.1.131" to "45.2.1.185" here and in 146.11.4.3 item MI3

Proposed Response *Response Status* **O**

Cl **147** SC **147.3.6** P **158** L **23** # 135
Anslow, Pete Ciena

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

22.2.2.11 and 22.2.2.12 are included in the draft, so references to them should be cross-references.

SuggestedRemedy

Change "22.2.2.11" to be a cross-reference in:
147.3.6 (page 158, line 23)
148.4.5.1 (page 180, line 36)
Change "22.2.2.12" to be a cross-reference in:
148.4.5.1 (page 180, line 36)

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.5.1** P **180** L **36** # 136
Anslow, Pete Ciena

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

in "a BEACON or a valid packet (see 1.4.312)", the external reference "1.4.312" is the definition for "local device", which does not appear to be appropriate.

SuggestedRemedy

Change this reference to point to the intended definition.

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4.1.1** P **178** L **34** # 137
Anslow, Pete Ciena

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

22.2.2.4 and 22.2.2.8 are included in the draft, so references to them should be cross-references.

SuggestedRemedy

Change "22.2.2.4" to be a cross-reference in:
148.4.4.1.1 (page 178, line 34)
148.4.4.1.2 (page 178, line 49)
Change "22.2.2.8" to be a cross-reference in:
148.4.4.1.1 (page 178, line 37)
148.4.4.1.3 (page 179, line 8)

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **153** *L* **54** # 138
Anslow, Pete Ciena

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

There are 4 instances in the draft where "i.e. " should be "i.e., " (comma missing)

SuggestedRemedy

Change "i.e. " to "i.e., " in:
147.3.2.5 (page 153, line 54)
147.3.3.1 (page 154, line 22)
147.3.3.5 (page 155, line 38)
148.4.5.1 (page 180, line 40)

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **182** *L* **1** # 139
Anslow, Pete Ciena

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

Blank page

SuggestedRemedy

Remove it.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.4** *P* **185** *L* **41** # 140
Anslow, Pete Ciena

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

According to the rules set out in:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers
"In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."

SuggestedRemedy

In the definition of TO_TIMER, change "65535" to "65 535"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **186** *L* **26** # 141
Anslow, Pete Ciena

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

Incorrect multiply symbol used

SuggestedRemedy

replace with correct multiply symbol (Ctrl-q 0)

Proposed Response *Response Status* **O**

Cl **98** *SC* **98B.4** *P* **198** *L* **20** # 142
Anslow, Pete Ciena

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

Underline missing from last em-dash

SuggestedRemedy

Underline it

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.20** *P* **199** *L* **34** # 143
Anslow, Pete Ciena

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

The number for an IEC standard should be preceded by "IEC"

SuggestedRemedy

Change "and 60079-11" to "and IEC 60079-11" here and on page 201, line 1

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.13b** *P* **24** *L* **18** # 144
Lewis, Jon Dell EMC

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

Twisted-pair is still included

SuggestedRemedy

Change to: IEEE 802.3 Physical Layer specification for a 10 Mb/s Ethernet local area network over a short reach single balanced pair of conductors.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.2** *P* **33** *L* **12** # 145
Lewis, Jon Dell EMC

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

remove the word "cable"

SuggestedRemedy

Change to: Single balanced pair copper PHY as specified in Clause 147

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3** *P* **44** *L* # 146
Lewis, Jon Dell EMC

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

remove the '1' in both register names: 10BASE-T1L PCS status 1 and 10BASE-T1S PCS status 1. We removed the second register and this is to clean up the names of the remaining registers.

SuggestedRemedy

Change to: 10BASE-T1L PCS status and 10BASE-T1S PCS status

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6** *P* **68** *L* **6** # 147
Lewis, Jon Dell EMC

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

Arrows in state diagram should be the same.

SuggestedRemedy

Change Arrows at the top of the state diagram where the 3 inputs are going into the "SPEED_DETECTION" state to be the same format as the other Arrows in the diagram.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2** *P* **89** *L* **2** # 148
Lewis, Jon Dell EMC

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

Align arrows and lines between the PCS block and the PMA block with the blocks themselves.

SuggestedRemedy

Align arrow PMA_RXSTATUS.indication with the PCS block; Align arrow PMA_RX_LPI_STATUS.request with the PMA block

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.3** *P* **122** *L* **2** # 149
Lewis, Jon Dell EMC

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

Resistor isn't aligned properly

SuggestedRemedy

Replace figure with the figure from 147.5.4.1

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.4** *P* **123** *L* **32** # 150
Lewis, Jon Dell EMC

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

Equations 146-6,7,8,9 need non-breaking spaces between the number and the units

SuggestedRemedy

Add non-breaking spaces between the number and units across all equations listed.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.5.3** *P* **125** *L* **9** # 151
Lewis, Jon Dell EMC

Comment Type **E** *Comment Status* **X**
Resistor isn't aligned properly

SuggestedRemedy
Align resistor(s) properly with the connection lines in the drawing.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **46** # 152
Lewis, Jon Dell EMC

Comment Type **E** *Comment Status* **X**
Sentence doesn't add value to the specification and provides no new information to the reader.

SuggestedRemedy
Remove the sentence.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.6** *P* **165** *L* **40** # 153
Lewis, Jon Dell EMC

Comment Type **E** *Comment Status* **X**
Resistor isn't aligned properly

SuggestedRemedy
Align resistor(s) properly with the connection lines in the drawing.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.2** *P* **129** *L* **41** # 154
Hidaka, Yasuo Independent

Comment Type **E** *Comment Status* **X**
Equation (146-12) has an unnecessary "dB".

SuggestedRemedy
Remove the unnecessary "dB".

Proposed Response *Response Status* **O**

Cl **104** *SC* **104** *P* *L* # 155
DiMinico, Christopher MC Communications

Comment Type **TR** *Comment Status* **X**
Accepted changes to the draft shown in stewart_3g_01f_0518.pdf slides 7-10 were not implemented. 104.1, 104.3, 104.7,45-340 (802.3-2018).

SuggestedRemedy
Make changes shown in stewart_3g_01f_0518.pdf slides 7-10, changing table 45-211r reference (from 802.3bu-2016) to 45-340 (802.3-2018), as agreed by Motion #8 in May 2018 (the change on slide 11 was made).

Proposed Response *Response Status* **O**

Cl **00** *SC* **Keywords** *P* **3** *L* **4** # 156
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] 10BASE-T1; …; MASTER-SLAVE

SuggestedRemedy
10BASE-T1L; 10BASE-T1S; …; Master-Slave

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **10** # 157
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Insert new third and fourth paragraphs after existing second paragraph in 22.2.4 as follows:

SuggestedRemedy
Modify the second paragraph in 22.2.2.4 as follows: (the text is already in the second paragraph, Clause is 22.2.2.4 instead of 22.2.4)

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **15** # 158
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:

SuggestedRemedy

Insert a new third and fourth paragraph after the second paragraph in 22.2.2.4 as follows: (add "a", remove "s" from paragraphs and correct Clause reference)

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **25** # 159
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] :.

SuggestedRemedy

Remove "." after ":" at the end of the line.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.5** *P* **25** *L* **44** # 160
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] 22.2.5

SuggestedRemedy

22.2.2.5 (correct Clause reference)

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.8** *P* **26** *L* **3** # 161
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] 22.2.8

SuggestedRemedy

22.2.2.8 (correct Clause reference)

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.8** *P* **26** *L* **10** # 162
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Table 22-1

SuggestedRemedy

Table 22-2 (see table below)

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.11** *P* **26** *L* **30** # 163
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] 22.2.11

SuggestedRemedy

22.2.2.11 (correct Clause reference)

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.12** *P* **26** *L* **39** # 164
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] 22.2.12

SuggestedRemedy

22.2.2.12 (correct Clause reference)

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.1.1** *P* **31** *L* **34** # 165
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] .;

SuggestedRemedy
Remove ";" after "." at the end of the line.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.1** *P* **31** *L* **50** # 166
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] ;

SuggestedRemedy
. (replace ";" by "." at the end of the sentence)

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.2** *P* **32** *L* **9** # 167
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] .;

SuggestedRemedy
Remove ";" after "." at the end of the line.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a.5** *P* **37** *L* **36** # 168
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] … 10BASE-T1L PMD ...

SuggestedRemedy
Adapt the Font Size of "10BASE-T1L PMD" to the rest of the text in the note.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d.4** *P* **41** *L* **44** # 169
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] This operation interrupts data communication.

SuggestedRemedy
For 10BASE-T1L the equivalent text is: This operation may interrupt data communication. (Should be adapted to be the same for both PHY types.)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d.4** *P* **41** *L* **44** # 170
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **X**
The data path …

SuggestedRemedy
Needs to be discussed with the group, if this text is needed here. As the 10BASE-T1S has no link training, getting to normal operation should be much faster than for 10BASE-T1L. If text is kept, then the font size of 10BASE-T1S PMD needs to be adapted to the rest of the text in the note.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58b** *P* **45** *L* **46** # 171
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
RO = Read only

SuggestedRemedy
RO = Read only, LH = Latching high, LL = Latching low (LH and LL definitions are missing)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **51** *L* **9** # 172
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] othersie

SuggestedRemedy
otherwise

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **51** *L* **37** # 173
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] ... disable the transmitter

SuggestedRemedy
... disables the transmitter (add "s" after disable)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **52** *L* **10** # 174
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] 1.2294.11

SuggestedRemedy
1.2294.10 (EEE bit is 1.2294.10 instead of 1.2294.11)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **52** *L* **13** # 175
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] 1.2294.11

SuggestedRemedy
1.2294.10 (EEE bit is 1.2294.10 instead of 1.2294.11)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **52** *L* **19** # 176
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] othersie

SuggestedRemedy
otherwise

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **53** *L* **6** # 177
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] ... disable the transmitter

SuggestedRemedy
... disables the transmitter (add "s" after disable)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **53** *L* **18** # 178
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Setting either 1.2299.12 or 1.0.12 sets the other

SuggestedRemedy
Setting either 1.2299.11 or 1.0.11 sets the other (Low Power Bit is 11 not 12)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **53** *L* **20** # 179
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Clearing either 1.2299.12 or 1.0.12 clears the other

SuggestedRemedy
Clearing either 1.2299.11 or 1.0.11 clears the other (Low Power Bit is 11 not 12)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.3** *P* **53** *L* **22** # 180
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **X**
Functionality for bit 1.2299.11 is missing in PICS.

SuggestedRemedy
Please add new line MM193 with the following content: Feature: Setting either 1.2299.11 or 1.0.11 puts the 10BASE-T1S PMA/PMD in low-power mode, Subclause: 45.2.1.174d.4, Status: PMA:M, Support: Yes [ ] N/A [ ]

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.5.3.7** *P* **54** *L* **17** # 181
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] 3.2304.15

SuggestedRemedy
3.2278.15 (PCS Control Register of 10BASE-T1L)

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6.2** *P* **69** *L* **17** # 182
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **X**
[AN PREAMBLE] 3600 ns

SuggestedRemedy
Change to 2000 ns, if the proposed new start delimiter for the "low speed" auto-negotiation is being accepted by the group. The new SD, has a maximum nominal pulse duration of 1600 ns + up to 400 ns tolerance, so at maximum 2000 ns). See also presentation "Auto-Negotiation Start Delimiter".

Proposed Response *Response Status* **O**

Cl **104** *SC* **104** *P* **73** *L* **1** # 183
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **X**
New PoDL definitions as agreed in Pittsburgh are missing.

SuggestedRemedy
Add changes as described in "http://www.ieee802.org/3/cg/public/May2018/stewart_3g_01f_0518.pdf", pages 7, 8, 9 and 10.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.6.3** *P* **92** *L* **44** # 184
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] ... Figure 146-8, and Figure 146-15.

SuggestedRemedy
… Figure 146-8, Figure 146-14, and Figure 146-15. (Reference to Figure 146-14 is missing).

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.7** *P* **92** *L* **52** # 185
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] ... operations o of the …

SuggestedRemedy
… operations of the … ("o" too much)

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1** *P* **106** *L* **21** # 186
Graber, Steffen Pepperl+Fuchs GmbH

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

A hint should be given to a PHY developer not to (accidently) align the PHY training with the receiving of the delimiter symbols, as these symbols are not scrambled.

SuggestedRemedy

Please add the following Note: Note - The Data or Idle Data stream of each PHY is scrambled using different generator polynomials for the Master and the Slave PHY. Nevertheless the comma sequence, the delimiters and the disparity reset symbols are not scrambled. Care must be taken to not synchronize the PHY training to these symbols as this could have a negative effect on the Echo Canceller training, especially when transmitting short Ethernet telegrams.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1** *P* **107** *L* **28** # 187
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] (scr_status = OK)*

SuggestedRemedy

(scr_status = OK) * (space before "*" is missing)

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.1** *P* **116** *L* **22** # 188
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Possible values are missing.

SuggestedRemedy

Add: Values: TRUE or FALSE

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.3** *P* **118** *L* **42** # 189
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] '... + (scr_status = NOT_OK)]*

SuggestedRemedy

… + (scr_status = NOT_OK) * (remove "]" after (scr_status = NOT_OK), only the scr_status check is intended to be disabled, if lpi is active.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.3** *P* **118** *L* **42** # 190
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] loc_lp_req <= FALSE (within state "SEND IDLE OR DATA")

SuggestedRemedy

loc_lpi_req <= FALSE (add "i" after "lp").

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.2** *P* **122** *L* **47** # 191
Graber, Steffen Pepperl+Fuchs GmbH

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

The droop measurement specified for Clause 146 and Clause 147 are different and should be aligned.

SuggestedRemedy

Change the droop measurement of Clause 146.5.4.2 to the droop measurement being specified in Clause 147.5.4.2. Change the text of 146.5.4.2 in the following way: Transmitter output droop shall be measured using test mode 2 in combination with the test fixture shown in Figure 146-17. The magnitude of both the positive and negative droop measured with respect to the initial peak value after the zero crossing and the value 666.67 ns after the initial peak, depicted in Figure 146-xx, shall be less than 10 %. Add also figure 147-13 (with a new reference to Clause 146) to 146.5.4.2 with the 800 ns value changed to 666.67 ns (5 bit times). (10 % droop instead of the original 20 % are used, as the measurement point is now in the middle of the 10 bit times pulse and in the original measurement the span of the inner 9 bits has been used, which is aproximately double the time, thus allowing for a higher droop).

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.4** *P* **123** *L* **9** # 192
Graber, Steffen Pepperl+Fuchs GmbH

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

[PSD MASK] In test mode 3 (reflecting normal operation), the transmit power shall be 8.8 ± 1.0 dBm for the 2.4 Vpp operating mode and 1.2 ± 1.0 dBm for the 1.0 Vpp operating mode.

SuggestedRemedy

In test mode 3 (reflecting normal operation in Idle mode), within a frequency range of 0.1 MHz to 20 MHz the transmit power shall be 8.8 ± 2.0 dBm for the 2.4 Vpp operating mode and 1.2 ± 2.0 dBm for the 1.0 Vpp operating mode. (see presentation 10BASE-T1L PSD Mask Changes).

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.4** *P* **123** *L* **29** # 193
Graber, Steffen Pepperl+Fuchs GmbH

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

[PSD MASK] Equations 146-6 to 146-9 and Figure 146-19.

SuggestedRemedy

If agreed by the group, adapt the equations and figure according to presentation "10BASE-T1L PSD Mask Changes", page 4.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **12** # 194
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] full/half-duplex

SuggestedRemedy

full-/half-duplex

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **19** # 195
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … inherently energy efficient and without the need ..

SuggestedRemedy

… inherently energy efficient, without the need … (add comma and remove "and")

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.1** *P* **145** *L* **31** # 196
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Auto negotiation is not defined for 10BASE-T1S PHY …

SuggestedRemedy

Auto-Negotiation is not defined for a 10BASE-T1S PHY … (correct Auto-Negotiation and add "a" before 10BASE-T1S)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **38** # 197
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … at least 15 meters …

SuggestedRemedy

… at least 15 meters cable …

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **41** # 198
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … interconnecting up to at least 8 PHYs, to a trunk up to …

SuggestedRemedy

… interconnecting up to at least 8 PHYs to a trunk up to … (remove comma)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **42** # 199
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … at the end of stubs up to 10 cm.

SuggestedRemedy

… at the end of stubs with a length of up to 10 cm.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **46** # 200
Graber, Steffen Pepperl+Fuchs GmbH

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

Should we talk in any way about "low cost" here?

SuggestedRemedy

If it is ok to do so, keep this paragraph in, otherwise just remove the paragraph.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **146** *L* **2** # 201
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … are contained in the PCS …

SuggestedRemedy

… are contained within the PCS …

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.2** *P* **147** *L* **4** # 202
Graber, Steffen Pepperl+Fuchs GmbH

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

COL and CRS signals are missing in Figure 147-2.

SuggestedRemedy

Please add signals COL and CRS leading from the PCS to the MII.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.2** *P* **147** *L* **4** # 203
Graber, Steffen Pepperl+Fuchs GmbH

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

BI_DA+/BI_DA- signal is missing in Figure 147-2

SuggestedRemedy

Please add bidirectional differential signal BI_DA+/BI_DA- between PMA and MDI.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.2** *P* **147** *L* **4** # 204
Graber, Steffen Pepperl+Fuchs GmbH

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

Optional PMA_LINK.request and PMA_LINK.indication signals and optional Technology Dependent Interface are missing in Figure 147-2.

SuggestedRemedy

Please add optional PMA_LINK.request and PMA_LINK.indication signals and optional Technology Dependent Interface (needed for optional Auto-Negotiation in point-to-point mode, the text in 147.1 has been interpreted that Auto-Negotiation for point-to-point links is optionally available, as it is only explicitly stated, that Auto-Negotiation is not supported for mixing segments).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.1** *P* **148** *L* **14** # 205
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Connection dots in Figure 147-3 are missing.

SuggestedRemedy

Please add signal nets connection dots to Figure 147-3.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.1** *P* **149** *L* **14** # 206
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] replaces

SuggestedRemedy
replace (plural)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.1** *P* **149** *L* **21** # 207
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] The 10BASE-T1S …

SuggestedRemedy
The 10BASE-T1S PHY …

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* **149** *L* **54** # 208
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Commas at end of lines [54 and next page 1] are missing.

SuggestedRemedy
Add 2 x a comma after "asserted".

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* **150** *L* **11** # 209
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] When this variable is set to TRUE it indicates …

SuggestedRemedy
When this variable is set to TRUE, it indicates … (comma is missing).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.5** *P* **153** *L* **50** # 210
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] … of self-synchronizing scrambler by linear-feedback shift register ...

SuggestedRemedy
… of a self-synchronizing scrambler by a linear-feedback shift register … (add 2 x "a").

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.5** *P* **153** *L* **51** # 211
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] At every MII clock cycle, for each bit of TXD[3:0] the scrambler …

SuggestedRemedy
At each MII clock cycle, for each bit of TXD[3:0], the scrambler … (replace every by each and add a comma)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **28** # 212
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Transmit functions

SuggestedRemedy
Transmit function (there is only one function)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **40** # 213
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] … ESDOK and ESDERR see 147.3.2.2.

SuggestedRemedy
… ESDOK, and ESDERR see 147.3.2.2. (add comma after ESDOK).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.2** *P* **154** *L* **47** # 214
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] When it is set to TRUE it indicates …

SuggestedRemedy
When it it set to TRUE, it indicates … (add comma).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.2** *P* **154** *L* **53** # 215
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] This variable is set after bit 8 in MDIO register 0 defined in Table 22-7.

SuggestedRemedy
If MDIO is being implemented, this variable is set according to bit 8 in MDIO register 0, defined in Table 22-7.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.2** *P* **155** *L* **12** # 216
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Received 5b symbol …

SuggestedRemedy
Received 5B symbol … (B should be capital).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.2** *P* **155** *L* **19** # 217
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] PCS Receive process

SuggestedRemedy
PCS receive function (which is the terminology in the rest of the document).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.2** *P* **155** *L* **27** # 218
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Dot is missing at end of line.

SuggestedRemedy
Add "." after … PCS RX clock.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.5** *P* **155** *L* **37** # 219
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] exclusive OR

SuggestedRemedy
exclusive-OR (to be aligned with the description in chapter 147.3.2.5).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.5** *P* **156** *L* **1** # 220
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
In Figures 147-8 and 147-9 the pcs_rxd vector is net set into quotation marks (as in clause 146).

SuggestedRemedy
Set the 4-bit binary vectors in quotation marks or remove the quotation marks in Clause 146.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.5** *P* **156** *L* **30** # 221
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] RSCD * precnt != 9

SuggestedRemedy
For better reading the condition should not be divided by the arrow line.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.5** *P* **157** *L* **20** # 222
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] Font style of 0000 (left side) does not fit rest of document.

SuggestedRemedy
Change font style according to document style rules.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.5** *P* **158** *L* **17** # 223
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] … in the symbol sequence.

SuggestedRemedy
… within the symbol sequence.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.7** *P* **159** *L* **3** # 224
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] When PLCA …

SuggestedRemedy
If PLCA … (on page 159 there are several "when" conditions, likely they need to be converted to "if" conditions, as there is no timely reference, but it is meant to be conditional).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.7.1** *P* **159** *L* **12** # 225
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] … than a 'N' code.

SuggestedRemedy
… than an 'N' code. ('an' instead of 'a').

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.7.2** *P* **159** *L* **19** # 226
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **X**
[EASY] … the MII signals RX_DV, RX_ER and RXD shall …

SuggestedRemedy
… the MII signals RX_DV, RX_ER, and RXD<3:0> shall … (add comma and <3:0>)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4** *P* **159** *L* **34** # 227
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Font style of Figure 147-10 does not match rest of the document.

SuggestedRemedy

Please change font style of Figure 147-10 to match other drawings.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4** *P* **159** *L* **35** # 228
Graber, Steffen Pepperl+Fuchs GmbH

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

PMA_UNITDATA.indication (rx_sym) and PMA_UNITDATA.request (tx_sym) seem to be reversed.

SuggestedRemedy

Please move PMA_UNITDATA.request (tx_sym) to PMA Transmit block and PMA_UNITDATA.indication (rx_sym) to PMA Receive block (direction of arrows is already ok and needs no change, only the text)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4** *P* **159** *L* **35** # 229
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Arrow from PMA transmit to BI_DA+/- is missing.

SuggestedRemedy

Add an arrow in line 35 from PMA Transmit to BI_DA+/-.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.2** *P* **160** *L* **33** # 230
Graber, Steffen Pepperl+Fuchs GmbH

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

In Figure 147-11 using high impedance state the exponential decay of the signal is shown after disabling the transmitter. Nevertheless there is no time specified until the signal on the link segment or mixing segment must reach a level of "0".

SuggestedRemedy

If the differential "0" is a must in being able to detect an end of the telegram (e.g. if and ESD is not detected), then there is need to specify an additional time T4, which is smaller than T1, e.g. max. 100 ns), if there is no need to read a "0", then we could keep it like it is (or e.g. make a note, that the maximum time for the signal to reach "0" again in high impedance state is T1).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.2** *P* **161** *L* **5** # 231
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] comma before if is missing.

SuggestedRemedy

Add a comma before "if".

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.2** *P* **161** *L* **14** # 232
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] comma before if is missing.

SuggestedRemedy

Add a comma before "if".

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.2** *P* **161** *L* **15** # 233
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … until next bit.

SuggestedRemedy

… until the next bit (add "the").

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.3** *P* **161** *L* **24** # 234
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] The PMA receive function …

SuggestedRemedy

The PMA Receive function … (capital "R").

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.3** *P* **161** *L* **25** # 235
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … the PMA Receive …

SuggestedRemedy

… the PMA Receive function …

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.1** *P* **163** *L* **30** # 236
Graber, Steffen Pepperl+Fuchs GmbH

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

Clause 147.5.2, test mode 2 describes a transmit amplitude of 1 Vpp +/- 30 %. The text in Clause 147.5.4.1 describes a transmitter output voltage of 1 V +/- 20 %.

SuggestedRemedy

Needs to be aligned. Both Clauses 1 Vpp +/- 20 % or both Clauses 1 Vpp +/- 30 % (which from discussions during the last meetings is likely, what it is intended to be used).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.1** *P* **163** *L* **13** # 237
Graber, Steffen Pepperl+Fuchs GmbH

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

Test probe capacitance seems to be quite high (30 pF).

SuggestedRemedy

Test probe capacitance should be below 10 pF (due to the higher signal frequency compared to 10BASE-T1L).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.3** *P* **164** *L* **7** # 238
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Figure 147-14 belongs to Clause 147.5.4.4.

SuggestedRemedy

Move Figure 147-14 into Clause 147.5.4.4.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.4.1** *P* **164** *L* **29** # 239
Graber, Steffen Pepperl+Fuchs GmbH

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

There is no upper limit of the frequency range for the upper PSD limit.

SuggestedRemedy

It could make sense to limit the upper frequency of the upper PSD limit to a maximum frequency (e.g. 40 MHz, as shown in Figure 147-15). If agreed, specify 25 <= f <= 40 and 0.3 <= f <= 40 MHz.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.6** *P* **165** *L* **29** # 240
Graber, Steffen Pepperl+Fuchs GmbH

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

An AWGN noise limit of -106 dBm/Hz with a BW of 20 MHz is specified here (ehich is the same limit as for 10BASE-T1L, but with 20 MHz BW). Is this noise limit sufficient for unshielded Automotive applications (for the 10BASE-T1L shielded cables are assumed).

SuggestedRemedy

Recheck noise limit and adjust, if necessary (especially as there is much less attenuation and only a PAM-2 is being used, there should be significant more headroom).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.6** *P* **165** *L* **48** # 241
Graber, Steffen Pepperl+Fuchs GmbH

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

Headline PMA Local Loopback (and assigned chapter number) are missing.

SuggestedRemedy

Add a new headline "PMA Local Loopback" and asign an appropriate chapter number (it may be reasonable to move this chapter after chapter 147.5.4.7).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.7** *P* **166** *L* **15** # 242
Graber, Steffen Pepperl+Fuchs GmbH

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

A 10 kOhm impedance at 25 MHz would equal to a maximum capacitance of 0.64 pF. This value seems to be very hard to reach in combination, even with small PCB traces,a very low capacitance ESD protection and an MDI connector.

SuggestedRemedy

What is likely meant is a resistance of 10 kohms at DC. Nevertheless specification of an impedance at up to 25 MHz is important to limit the MDI return loss. Technically more realistic would likely be an impedance of 1 kohm @ 25 MHz, which would be equal to approx. 6.4 pF. So suggestion is to change the wording in the following way: In test mode 4, a transmitter supporting the multidrop mode presents to the line a minimum DC resistance of 10 kOhm and a minimum AC impedance of 1 kOhm for frequencies up to 25 MHz. Alternatively the node capacitance can be aligned to 15 pF, which would mean an impedance of 424 ohms at 25 MHz.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.6** *P* **166** *L* **19** # 243
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] 10BASE-T1S

SuggestedRemedy

A 10BASE-T1S PHY

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.7.2** *P* **166** *L* **48** # 244
Graber, Steffen Pepperl+Fuchs GmbH

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

20 (line break) MHz

SuggestedRemedy

20 MHz (add a non breakable space between 20 and MHz).

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.7.2** *P* **166** *L* **48** # 245
Graber, Steffen Pepperl+Fuchs GmbH

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

The text defines 0.1 MHz to 20 MHz, the equation specifies 0.3 MHz to 40 MHz.

SuggestedRemedy

As for 10BASE-T1S most parameters are specified from 0.3 MHz to 40 MHz, the text needs to be adapted to 0.3 MHz to 40 MHz.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.7.3** *P* **167** *L* **16** # 246
Graber, Steffen Pepperl+Fuchs GmbH

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

Mode Conversion is specified for up to 200 MHz, while the frequency limits in line 20 are 0.3 to 40 MHz. Needs to be adjusted.

SuggestedRemedy

Likely the 200 MHz are a copying error and need to be set to 40 MHz.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8** *P* **167** *L* **24** # 247
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … that meet the requirements …

SuggestedRemedy

… that meets the requirements … (add "s")

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8** *P* **167** *L* **28** # 248
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … based on automotive cabling supporting up to at least …

SuggestedRemedy

… based on automotive cabling, supporting up to at least … (add comma)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8** *P* **167** *L* **29** # 249
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] … and reference points is shown …

SuggestedRemedy

… and reference points are shown … (plural)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8.1** *P* **168** *L* **1** # 250
Graber, Steffen Pepperl+Fuchs GmbH

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

Ordering of Return Loss and Insertion loss is different to Clause 147.7.1 and 147.7.2.

SuggestedRemedy

Reverse ordering of Clauses 147.8.1 and 147.8.2 to be aligned with the previous Clause ordering.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9** *P* **168** *L* **24** # 251
Graber, Steffen Pepperl+Fuchs GmbH

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

The MDI interface connector definition is still requiring shieldid connections.

SuggestedRemedy

Likely a 2 pin connector (BI_DA+ and BI_DA-) needs to be defined and all references to the shield need to be removed from the text.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.2** *P* **168** *L* **43** # 252
Graber, Steffen Pepperl+Fuchs GmbH

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

Just taking the 15 pF per node into account, this leads to an impedance at 40 MHz of 265 ohms (having 7 non-transmitting nodes, this leads to approx 38 ohms in total (if they are all in parallel). This likely will present a worse RL compared to equation 147-4.

SuggestedRemedy

Probably a note makes sense, which states, that when having nodes with worst case capacitance connected at the same position of the mixing segment, the RL definitions of a mixing segment may be exceeded and that care needs to be taken during the planning of the network (alternatively the capacitance or the relevant frequency range may be reduced).

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.3** *P* **174** *L* **27** # 253
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] "PMA" text is overlaying the Figure 148-1 description.

SuggestedRemedy

Remove "PMA" from line 27.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146B** *P* **205** *L* **11** # 254
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] No spaces between numbers and units in Figure 146B-2.

SuggestedRemedy

Add spaces between numbers and units in Figure 146B-2.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146B** *P* **205** *L* **12** # 255
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] dcpower

SuggestedRemedy

dc power (add space)

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.3 (802.3 D3.2** *P* **210** *L* **35** # 256
Graber, Steffen Pepperl+Fuchs GmbH

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

[AN PREAMBLE] The page is preceded by a unique Start Delimiter consisting of a 26 × T1 sequence that includes multiple DME transition violations. For a Start Delimiter starting with a 0 to +1 transition, the bit sequence is: +1 –1 +1 +1 –1 –1 +1 –1 –1 –1 –1 +1 –1 +1 –1 –1 –1 –1 +1 +1 –1 –1 –1 +1 –1 +1.

SuggestedRemedy

The page is preceded by a unique Start Delimiter consisting of a 26 × T1 sequence that includes multiple DME transition violations. For a Start Delimiter starting with a 0 to +1 transition, the bit sequence for high speed Auto-Negotiation mode is: +1 –1 +1 +1 –1 –1 +1 –1 –1 –1 –1 +1 –1 +1 –1 –1 –1 –1 +1 +1 –1 –1 –1 +1 –1 +1.
For a Start Delimiter starting with a 0 to +1 transition, the bit sequence for low speed Auto-Negotiation mode is: +1 –1 +1 –1 +1 –1 +1 –1 +1 +1 –1 –1 +1 +1 –1 +1 +1 –1 +1 –1 –1 +1 –1 +1 +1 –1.
(for background information see also presentation "Auto-Negotiation Start Delimiter")

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.3** *P* **103** *L* **40** # 257
Andre, Szczepanek HSZ Consulting

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

This sub-clause is redundant

SuggestedRemedy

Remove 146.3.3.2.3
Edit 146.3.3.2.2 to generate SCn[3:0] directly.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.5** *P* **104** *L* **31** # 258
Andre, Szczepanek HSZ Consulting

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

"The running disparity is reflecting this actual difference and depending on the running disparity the next symbol coding is chosen."

SuggestedRemedy

Change
"The running disparity is reflecting this actual difference and depending on the running disparity the next symbol coding is chosen."
to
"The running disparity reflects this difference and is used to choose the coding of the next symbol."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1** *P* **106** *L* **13** # 259
Andre, Szczepanek HSZ Consulting

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

This paragraph though technically correct does not explain why a delay is necessary.
It is my understanding that the delay is required to allow packets with ESD_ERR4 to be indicated as in error on the MII.
So why not say this ?

SuggestedRemedy

Change
"ensuring correct packet reception at the MII"
to
"ensuring correct indication of error marked(ESD_ERR4) packets at the MII."

Proposed Response *Response Status* **O**

Cl **146** *SC* **Tabl 148-8** *P* **107** *L* **10** # 260
Andre, Szczepanek HSZ Consulting

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

variable "scr_status = OK " is used in exit from WAIT_SCRAMBLER state but is not defined in 146.3.4.1.1 "Variables"

SuggestedRemedy

Add definition of scr_status to 146.3.4.1.1

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.2** *P* **111** *L* **38** # 261
Andre, Szczepanek HSZ Consulting

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

"PCS Receive generates the sequence of symbols and indicates the reliable acquisition of the descrambler state by setting the parameter scr_status to OK."

No information is provided anywhere in this clause as to how the side-stream scrambler polynomial LSFR state is acquired.

It is my understanding that Sdn[0] == Scrn[0] during SEND_I allowing the LSFR state to be acquired during the initial PHY control SM "TRAING_MASTER and "WAIT_MASTER_TRAINING" states - exit from these states is dependent on (scr_status =OK") which would appear to confirm this.

However the involvement of the PHY control SM in descrambler acquisition is not stated anywhere.

SuggestedRemedy

Add a SM to show how descrambler lock is achieved.
Create a variant of Figure 146-7 where the LSFR feedback (into Scrn[0]) can be sourced from Sdn[0] under SM control.
The SM would seed the LSFR from Sdn[0] until Sdn[3:0] matches the equivalent of SCn[3:0] (as per 146.3.3.2.2) for at least 32 sequential triple ternary symbol periods.

Or an equivalent implementation

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.3** *P* **114** *L* **36** # 262

Andre, Szczepanek HSZ Consulting

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

"received signals on at the MDI"

SuggestedRemedy

Change
"received signals on at the MDI"
to
"received signals on the MDI"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1.1** *P* **109** *L* **29** # 263

Andre, Szczepanek HSZ Consulting

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

It is normal practise for state diagrams to follow the definition of Variables, Functions, & Timers. This convention is followed for the PCS TX SM, but not for the RX SM.

SuggestedRemedy

Move PCS Rx and JAB state diagrams after 146.3.4.1.3 (Timers)

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.1** *P* **102** *L* **41** # 264

Andre, Szczepanek HSZ Consulting

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

I fund this sub-clause very confusing because it uses the term "transmiiter side-stream scrambler" to describe the generator polynomial LSFR. The LSFR is the subject of further scrambling by the auxillary generator polynomial to produce SCn[3:0]. Figure 146-6 has a single box called "Side stream scrambler" that produces SCn[3:0], so text such as "An implementation of master and slave PHY side-stream scramblers by linear-feedback shift registers is shown in Figure-146-7" is mis-leading.

SuggestedRemedy

Change
"An implementation of master and slave PHY side-stream scramblers by linear-feedback shift registers is shown in Figure-146-7"
to
"An implementation of master and slave PHY side-stream generator polynomials by linear-feedback shift registers is shown in Figure-146-7"

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **24** *L* **15** # 265

KIM, YONG NIO

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

says ..up to at least 1000 m reach while the line 18 (T1S) does not say ..up to at least 25 m reach. Make them consistent.

SuggestedRemedy

Most MAUs do not state reach (due to all other relevant media spec dependancies), but some do. Do what make sense and defend it.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.5** *P* **24** *L* **32** # 266

KIM, YONG NIO

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

At least I see FSM as a missing abbrivation (Fig 148-3). Please add and find other missing abbrivation and add them.

SuggestedRemedy

please fix them.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148,.4.4.1.1** *P* **178** *L* **34** # 267
KIM, YONG NIO

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

"PLCA Control state machine generates a BEACON request by way of the tx_cmd variable as specified
in 148.4.5.2". But tx_cmd in 148.4.5.2 does not specify such behavior. And refers back to 148.4.4.1.1.

SuggestedRemedy

please fix it.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d** *P* **40** *L* **44** # 268
KIM, YONG NIO

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

Multidrop mode is not clear. If the TX or RX characteristics change, then it may be clearer to provide control around TX or RX parameters. Multidrop mode seems to indicate MAC/RS type of layer function.

SuggestedRemedy

Please use more direct parameter name as appropiorate.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a.5** *P* **37** *L* **30** # 269
KIM, YONG NIO

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

"This action mauy also initiate… in the same package" is not appropriate in so many levels. Delete

SuggestedRemedy

Delete the sentence and make changes to any related text elsewhere.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a.5** *P* **37** *L* **32** # 270
KIM, YONG NIO

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

"The behavior of the… shjouild not be relied upon" is not appropirate. Having a control defined for a purpose , low power mode, and having no specification tells me that this is purely vendor implementation paramter.

SuggestedRemedy

Delete the sentence and make changes to any related text elsewhere.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **21** # 271
KIM, YONG NIO

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

Multidrop mode is not clear. If the TX or RX characteristics change, then it may be clearer to provide control around TX or RX parameters. Multidrop mode seems to indicate MAC/RS type of layer function.

SuggestedRemedy

Please use more direct parameter name as appropiorate.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58a** *P* **45** *L* **12** # 272
KIM, YONG NIO

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

"10BASE-T1L PCS shall be placed…" "10BASE-T1L shall accept…". are not right -- loopback ability seems optional. Also a "shall accept data" -- what does it mean to "accept data"?

SuggestedRemedy

Please correct and clarify.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c** *P* **47** *L* **25** # 273
KIM, YONG NIO

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

Does the network segment work fine when nodes initialize with all defaults (in this case nodeID=255)? If so, then please explain how it works in CL147. If not, please explain why the default value matter.

SuggestedRemedy

Please reference appropirate part of CL147 that describes NodeID=255 default operation, or delete, or add other clarifications needed.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c** *P* **47** *L* **19** # 274
KIM, YONG NIO

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

If PLCA network does not work with repeaters, and a single multiple access segment cannot go beyond <nn> of nodes, why is the field much greater than necessary? It would be appropirate to set the value range to be the same as the actual segment max, and set the rest of the bits as reserved.

SuggestedRemedy

Please do so.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58d.1** *P* **47** *L* **44** # 275
KIM, YONG NIO

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

Default value of 20 bit times seems exceessive for system that initailize with the value, when E2E delay for 25 m is 1.25 BT. Adding RX latency (148.4.5.1) delta, which is not spec'ed but the worst case (one could be at 0 us and another could be at 4 us in 147.11) the value could be 41.25 us for 25 m segment. None of these equate to 20 bit times default.

SuggestedRemedy

Please spec appropriate default for system operation when systems initialize from default.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58e.3** *P* **48** *L* **45** # 276
KIM, YONG NIO

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

PLCA is not a part of PCS. Need to move this bit to appropirate layer (RS) register

SuggestedRemedy

Please do so.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58e.4** *P* **48** *L* **50** # 277
KIM, YONG NIO

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

PLCA is not a part of PCS. Need to move this bit to appropirate layer (RS) register

SuggestedRemedy

Please do so.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58f.1** *P* **49** *L* **27** # 278
KIM, YONG NIO

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

PLCA is not a part of PCS. Need to move this bit to appropirate layer (RS) register

SuggestedRemedy

Please do so.

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.2** *P* **57** *L* **41** # 279
KIM, YONG NIO

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

Obvious omission of 10BASE-T1S entry…. Why is it not listed? Objectives list still shjows optional EEE. 147.1 says "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78".

SuggestedRemedy

Please complete it. Or change the adopted objectives to reflect the draft.

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.5** *P* **58** *L* **15** # 280
KIM, YONG NIO

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

Obvious omission of 10BASE-T1S entry…. Why is it not listed? Objectives list still shjows optional EEE. 147.1 says "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78".

SuggestedRemedy

Please complete it. Or change the adopted objectives to reflect the draft.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **16** # 281
KIM, YONG NIO

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

PHY operates at 10 Mbps onto medium that supports 10 MBps. If the automnegotiation (high speed mode) operates at 16.667 Mb/s, it begs the question why the PHY is not operating at 16.667Mbps. Conversely, getting PHY + Medium to work reliability at 16.667 Mb/s just for the high speed mode not seem useful.

SuggestedRemedy

Delete high speed mode.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.1** *P* **145** *L* **30** # 282
KIM, YONG NIO

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

AN is not defined for 10BASE-T1S PHY in HD in multidrop mode. How does PHY know it's in that mode? What happens one PHY is not in multidrop mode, connected to the multidrop segment, or connected with null segment? Management is optional. Duplexness is associated with MAC

SuggestedRemedy

Please clarify.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* **149** *L* **44** # 283
KIM, YONG NIO

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

PLCA is not a part of PCS. It is a part of RS (CL 148). Why are plca_en and other signals are defined and used in CL147 PHY specification, i.e. Fig 147-4 PCS TX state diagram line 11? As per "When PLCA capability is supported and enabled, the RS shall use the combination of TX_EN deasserted,
TX_ER asserted, and TXD<3:0> equal to 0010 or 0011 as shown in Table 22–1 to send respectively a
BEACON or a COMMIT request as explained in Clause 148." the TX state diagram could just be tx_sym <=tx_cmd in SILENT state.

SuggestedRemedy

Eliminate plca related signal use here and everywhere else in this clause (CL147). Let RS layer do its thing, and let PCS and PMA in the PHY do their thing.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.1** *P* **173** *L* **15** # 284
KIM, YONG NIO

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

"PLCA is designed to work on top of CSMA/CD and can be dynamically enabled or disabled via management
interface. When disabled, the system operates as specified in Clause 22." makes no sense. Seconmd sentence - CL22 has been modified to add PLCA support. First sentence -- it does NOT work on top of CSMA/CD. PLCA uses Carrier sense and collision detect in completely different manner to perform alternative media access method.

SuggestedRemedy

Delete paragraph (both sentences), or make it technical correct.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **173** *L* **29** # 285
KIM, YONG NIO

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

"a multidrop network is granted, in turn, a single transmit opportunity" makes little sense.

SuggestedRemedy

Either clarify or delete.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **173** *L* **25** # 286
KIM, YONG NIO

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

"..round-robin fashion every time the PHY with node ID = 0 signals a BEACON on the medium, indicating the start of a new cycle" -- this specification does not describe how a node ID=0 is selected (or elected), and how the system handles duplicate node id=0 or absense of node id=0. Also not specified are node id conflict (duplicate node id s)

SuggestedRemedy

The draft is not complete without these specifications. Specify these to complete the spec. Ethernet std has management optional, config rules are known, and required protocol to config are specified (e.g. channel traninig)

Proposed Response *Response Status* **O**

Cl **148** *SC* **148** *P* **173** *L* # 287
KIM, YONG NIO

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

CL 4.3.3 variable definition of carrierSense is in conflict with how CL173 PLCA is using carrier sense. "The overall event of activity on the physical medium is signaled to the MAC sublayer by the variable carrierSense". And "var carrierSense: Boolean;
In half duplex mode, the MAC sublayer shall monitor the value of carrierSense to defer its own transmissions when the medium is busy. The Physical Layer sets carrierSense to true immediately upon detection of activity on the physical medium. After the activity on the physical medium ceases, carrierSense is set to false. Note that the true/false transitions of carrierSense are not defined to be precisely synchronized with the beginning and the end of the frame, but may precede the beginning and lag the end, respectively. (See 4.2 for details.) In full duplex mode, carrierSense is undefined." CL173 use of carrier sense is in conflict w/ CL4. These conflicted use are pervasive, e.g. CL148.4.6.1 holds carrier_on active even when there is no activity on the physical medium.

SuggestedRemedy

Either include CL4 carrier sense related maintanance changes as a part of PLCA, or change PLCA to work with CL4 carrier sense as defined.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.1.1** *P* **175** *L* **6** # 288
KIM, YONG NIO

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

The Figure 148-2 does not belong in CL148. If it becomes desirable to have it, it should be added to CL22 and reivewed for generic model correctness. CL22.1.1 lists summary of major concepts, gRS should be consistent with that

SuggestedRemedy

Delete, or move it to CL22 with modifications to align it to CL22.1.1

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.2** *P* **176** *L* # 289
KIM, YONG NIO

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

RS is defined in CL1 "1.4.425 Reconciliation Sublayer (RS): A mapping function that reconciles the signals at the Media Independent Interface (MII) to the Media Access Control (MAC)-Physical Signaling Sublayer (PLS) service definitions. (See IEEE Std 802.3, Clause 22.)", and consistent with CL22.1.1. Even when MII signals are used to convery signals for EEE, it is still performing reconciliation. PLCA is using signals in RS (collision, carrier-sense, etc) while creating a completely different and new medium access control (MAC) method. PLCA function does not belong in RS.

SuggestedRemedy

Move PLCA outside of RS (which only translates MII signals to PLS signals, for the dataplane as well as control like EEE states, not a new media access control method. And if necessary, revise CSD and objectives as appropirate.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.2** *P* **176** *L* # 290
KIM, YONG NIO

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

PLCA is not a generic RS.

SuggestedRemedy

Please correct and clarify.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.3** *P* **179** *L* **8** # 291
KIM, YONG NIO

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

The reference 22.2.2.8 is part of this draft, so should not be in green font. 22.2.2.8 itself does not clearly describe how, in combination with 148.4.4.1.3, performs early receive indication.

SuggestedRemedy

Please fix font and clarify in CL22 or here.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **13** # 292
KIM, YONG NIO

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

The strike outs "Other… shall have no effect upon the PHY". This proposed change could potentially make existing systems non-compliant. So this potentially violates CRD (compatibility) and may cause other issues.

SuggestedRemedy

please fix it.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **18** # 293
KIM, YONG NIO

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

Unlike LPI that is defined and referenced, PLCA, Beacon, Commit are not. And there is no reference and context wrt "capability is supported and enabled".

SuggestedRemedy

please fix so that readers of (proposed and revised) CL22 could make sense of new proposed terms. Look how LPI did it. Fairly pervasive changes are required to convey the proposed change.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **22** # 294
KIM, YONG NIO

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

The sentence "Other…shall.. upon the PHY"

SuggestedRemedy

Unneceesary text. But if you feel it is necessary, define what "shall have no effect" means, so that it could be added to the PICS and tested.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.5** *P* **25** *L* **46** # 295
KIM, YONG NIO

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

The proposed sentence "Assertion of the TX_ER signal shall not affect...".potentially make existing systems non-compliant. So this potentially violates CRD (compatibility) and may cause other issues.

SuggestedRemedy

please fix it.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.8** *P* **26** *L* **5** # 296
KIM, YONG NIO

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

Similar to my comment on 22.2.2.4. Unlike LPI that is defined and referenced, PLCA, Beacon, Commit are not.

SuggestedRemedy

please fix so that readers of (proposed and revised) CL22 could make sense of new proposed terms. Look how LPI did it. Fairly pervasive changes are required to convey the proposed change.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.11** *P* **26** *L* **33** # 297
KIM, YONG NIO

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

The proposed new paragraph has optional behavior that may or may not occur. This text does not belong in CL22.

SuggestedRemedy

Please remove the proposed text, or if required, put appropriate missing text WRT its relevancy (actions, signals, etc).

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.12** *P* **26** *L* **42** # 298
KIM, YONG NIO

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

Similar to my comment on 22.2.11. The proposed new paragraph has optional behavior that may or may not occur. This text does not belong in CL22.

SuggestedRemedy

Please remove the proposed text, or if required, put appropriate missing text WRT its relevancy (actions, signals, etc).

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3.3** *P* **28** *L* # 299
KIM, YONG NIO

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

PICs tables are blank. Draft is not complete.

SuggestedRemedy

Please complete the PICS table.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **30** *L* **26** # 300
KIM, YONG NIO

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

oResourceTypeID has erronous character that resembles block graphic rectangle.

SuggestedRemedy

Please delete the charactyer.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **30** *L* **25** # 301
KIM, YONG NIO

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

oPLCA 30.3.9 block is misplaced. It is mutually exclusive with oMACMergeEntity and oOMPEmulation and possibly others.

SuggestedRemedy

Please fix it so that they are not mutually exclusive with compatible entities.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.2.1** *P* **30** *L* # 302
KIM, YONG NIO

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

oPLCA would need an entry in CL30.2.2.1. Otherwise the draft is incomplete.

SuggestedRemedy

Please fix it.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **30** *L* # 303
KIM, YONG NIO

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

Table 30-1a would need an entry for oPLCA under DTE. Otherwise the draft is incomplete.

SuggestedRemedy

Please fix it.

Proposed Response *Response Status* **O**

Cl **00** *SC* **9** *P* **0** *L* # 304
KIM, YONG NIO

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

CL9 (and CL13 w/ respective consistent texts) starts with a note "NOTE—This repeater is not recommended for new installations. Since September 2011, maintenance changes are no longer being considered for this clause." and overview starts with "This clause specifies a repeater for use with IEEE 802.3 10 Mb/s baseband networks. A repeater for any other IEEE 802.3 network type is beyond the scope of this clause…." 10BASE-T1S with and without PLCA, and 10BASE-T1L relationship with repeater should be stated here or in respective clauses.

SuggestedRemedy

Note is a note, i.e. not a part of the standard but informative text. With no maintainance changes being considered for CL9 and CL13, approporate place to rnote that 10 Mbps system that uses 10BASE-T1x are not compatible w/ repeaters nor system considerations clauses are relevent may be respective clauses. But do somthing so that readers get clear direction and don't get confused.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.1.1** *P* **31** *L* **33** # 305
KIM, YONG NIO

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

States "..A disabled PLCA utilizes Clause 22 reconciliation sublayer without modification. An
enabled PLCA modifies the behavior of the reconciliation sublayer per Clause 148" but Clause 22 is already proposed to be modified with PLCA states and signals. If the intention is to leave CL22 as-is, this draft should not make any modification to CL22 and make this statement. Or do what was inteneded. Current text does not work (not clear).

SuggestedRemedy

Please fix it.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.1** *P* **31** *L* **43** # 306
KIM, YONG NIO

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

"Same as aPLCAAdminState" is not appropriate.

SuggestedRemedy

Please be verbose.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.1** *P* **31** *L* **47** # 307
KIM, YONG NIO

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

"PLCA" does not seem to be the right in "Setting PLCA to the enabled state". Is PLCA a layer or managed objectd or something else?

SuggestedRemedy

Please use consistent object, or (re-)define PLCA to be consistent.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.2** *P* **31** *L* **52** # 308
KIM, YONG NIO

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

"Sublayer provided the PHY implements and enables optional Clause 147 PLCA " is not right. PLCA is an optional component to RS as proposed, and is NOT a part of PHY

SuggestedRemedy

Please reference correct layers

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.3** *P* **32** *L* **11** # 309
KIM, YONG NIO

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

aPLCAMaxID -- does not have a range, so am I to read this as Max ID = <integer max value>? Is this max # of nodes consistent w/ PLCA clause, and is it get-set or just get? And why would this object be needed for each DTE?

SuggestedRemedy

Please clarify (range) and justify (why needed for each DTE)

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.4** *P* **32** *L* **22** # 310
KIM, YONG NIO

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

Local Node ID -- is there any other kind of node apart from the "local"? If not, how about just NodeID

SuggestedRemedy

Please do so.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.4** *P* **32** *L* **22** # 311
KIM, YONG NIO

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

There is no description on how NodeID=0 is assigned (or elected). How each NodeID is assured to be unique. How duplicate NodeID (error condition) is handled.

SuggestedRemedy

Please add details or references to these behaviors.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.5** *P* **32** *L* **41** # 312
KIM, YONG NIO

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

Is aPLCATransmitOppotunitiyTimer object get or get-set? What are the allowed ranges of values, and what is the unit for these values. This object defintion is incomplete.

SuggestedRemedy

Please add details and add appropriate references.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.4** *P* **33** *L* **47** # 313
KIM, YONG NIO

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

If 10BASE-T1S PHY supports CSMA/CD, then it should operate similiarly to 10BASE5, etc WRT to MAU not available/avialable as stated in second paragarph.

SuggestedRemedy

Please add appropriate references of media loopback. Current references are only to AUI

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.6** *P* **33** *L* # 314
KIM, YONG NIO

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

Jabber function that protets mixing segment is missing.

SuggestedRemedy

Please add in CL147 and also here for its mgmt.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.145.2** *P* **35** *L* # 315
KIM, YONG NIO

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

Without regard to my other comment on PLCA in RS layer, PLCA presence should be a part of the Table 45-2 but is missing.

SuggestedRemedy

Please add PLCA as stated (unless PLCA function is deleted from the draft).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a** *P* **36** *L* **34** # 316
KIM, YONG NIO

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

Low power ability is missing perhaps, before it could be controlled?

SuggestedRemedy

Is low-power mode a mandatory requirement? If so, provide a reference.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a** *P* **36** *L* **36** # 317
KIM, YONG NIO

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

EEE capability is optional. Clarify what happens if this bit = 1 when the corresponding ability is 0

SuggestedRemedy

Clarify.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **40** # 318
Wendt, Matthias Signify

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

"A 10BASE-T1L PHY shall be capable of operating as MASTER or SLAVE, per runtime configuration."

Is the intention here that a PHY supports both and this can be configured through runtime ? Or does it get to pick one and not support the other ?

SuggestedRemedy

Option1: "A 10BASE-T1L PHY shall be capable of operating both as MASTER or SLAVE, with one mode active per runtime configuration."

Option2: "A 10BASE-T1L PHY shall be capable of operating as either MASTER or SLAVE."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.1** *P* **102** *L* **47** # 319
Yseboodt, Lennart Signify

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

"In no case shall the scrambler state be initialized to all zeros."

Akward wording.

SuggestedRemedy

"The scrambler state not be initialized to all zeros."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.7** *P* **105** *L* **7** # 320
Yseboodt, Lennart Signify

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

In Table 146-1 the 4B3T encoding is listed using the symbols -, +, and 0.

Legibility can be improved.

SuggestedRemedy

- Replace "-" by a real minus symbol, not a hyphen
- Insert a non-breakable space (with fixed width, Frame: Ctrl+Space) between the symbols

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.2.7** *P* **105** *L* **35** # 321
Yseboodt, Lennart Signify

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

Table 146-2 and 146-3 use hyphens to indicate negative numbers.

SuggestedRemedy

Change hyphen to minus symbol.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.3** *P* **112** *L* **12** # 322
Yseboodt, Lennart Signify

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

There is a spurious period after equation 146-5.

SuggestedRemedy

Remove period.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.2** *P* **117** *L* **28** # 323
Yseboodt, Lennart Signify

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

The note at the end of 146.4.4.2 is incorrectly formatted.

SuggestedRemedy

Notes starts with 'NOTE' in capitals, followed by an em-dash.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.4** *P* **124** *L* **1** # 324
Yseboodt, Lennart Signify

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

Figure 146-19 is not drawn in Frame, and furthermore uses grayscale for the axis which is inconsistent with the rest of the document.

SuggestedRemedy

Redraw in Frame, with proper formatting.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.1** *P* **129** *L* **9** # 325
Yseboodt, Lennart Signify

Comment Type **E** *Comment Status* **X**
Figure 146-19 is not drawn in Frame.

SuggestedRemedy
Redraw in Frame.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.4** *P* **130** *L* **41** # 326
Yseboodt, Lennart Signify

Comment Type **E** *Comment Status* **X**
Table 146-5 does not use a minus symbol in the equations (4 occurences).

SuggestedRemedy
Replace hyphen by minus symbol.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.4** *P* **130** *L* **44** # 327
Yseboodt, Lennart Signify

Comment Type **E** *Comment Status* **X**
Table 146-5: "TCL .1 <= f <= 20"

.1 should be 0.1 per the IEEE style guide (see 12.2).

SuggestedRemedy
Fix here and on line 46.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.5** *P* **131** *L* **16** # 328
Yseboodt, Lennart Signify

Comment Type **E** *Comment Status* **X**
In Table 146-6 there is a missing horizontal lines between "(dB)" and "E1 E2 E3".

SuggestedRemedy
Add horizontal line.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.5** *P* **131** *L* **19** # 329
Yseboodt, Lennart Signify

Comment Type **E** *Comment Status* **X**
Table 146-6: ".1 <= f <= 20"

.1 should be 0.1 per the IEEE style guide (see 12.2).

SuggestedRemedy
Change to 0.1.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.3** *P* **151** *L* **1** # 330
Yseboodt, Lennart Signify

Comment Type **E** *Comment Status* **X**
In Table 147-1 there are a number of empty cells.
Empty table shalls should be notes as intentionally empty with an em-dash.

SuggestedRemedy
Add em-dash to the empty cells.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.1** *P* **163** *L* **23** # 331
Yseboodt, Lennart Signify

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

The title of Figure 147-12 is "Test fixture".
That isn't very descriptive / specific...

SuggestedRemedy

Change to "Transmitter output voltage test fixture"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.3** *P* **164** *L* **13** # 332
Yseboodt, Lennart Signify

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

The title of Figure 147-14 is "Transmitter test fixture 2 for PSD mask".

I can't seem to find the first test fixture.

SuggestedRemedy

Change to "Transmitter test fixture for PSD mask"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.2** *P* **168** *L* **37** # 333
Yseboodt, Lennart Signify

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

Equation 147-6 has a formatting issue (inflated '1').

SuggestedRemedy

Make '1' a normal size.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3** *P* **27** *L* **1** # 334
Yseboodt, Lennart Signify

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

Three empty PICS tables are shown in 22.3.3, 22.3.4.1, and 22.3.4.2.

SuggestedRemedy

Either add the required changed PICS elements or remove 22.3 if no changes are needed to the PICS.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a.1** *P* **36** *L* **44** # 335
Yseboodt, Lennart Signify

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

"Resetting the 10BASE-T1L PMA/PMD is accomplished by setting bit 1.2294.15 to a one."

The draft mixes use of "set to one" and "set to a one", the same with zero.

Looking at the rest of 802.3, (which of course is inconsistent, what did you expect), use of "set to one" and "set to zero" is much more prevalent than "set to a one".

SuggestedRemedy

Double-check with Pete Anslow.

Replace throughout the draft:
"to a one" ==> "to one" [35 occurences]
"to a zero" ==> "to zero" [11 occurences]

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **60** *L* **15** # 336
Yseboodt, Lennart Signify

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

Empty cell in a Table should be marked as such with an em-dash.
Table 98-1 uses hyphens "-".

SuggestedRemedy

Replace by em-dashes.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.6.3** *P* **75** *L* **41** # 337
Yseboodt, Lennart Signify

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

Equations 104-1, 104-2, and 104-3 are missing accolades {

SuggestedRemedy

Add accolades and unit where applicable.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146** *P* **85** *L* **1** # 338
Yseboodt, Lennart Signify

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

Equations in Clause 146 and 147 do not have a consistent formatting.
Some do not list a unit. Other do list the unit, something in parens, sometimes not.
Accolades are sometimes used, sometimes not.
Some have a "where" clause that defines the parameters used, some do not.

SuggestedRemedy

Consult with Pete Anslow and apply consistent formatting of ALL equations.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **36** # 339
Yseboodt, Lennart Signify

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

"A 10BASE-T1L PHY may optionally support Energy-Efficient Ethernet (see Clause 78) and advertise the EEE capability during Auto-Negotiation as described in Annex 98B.3."

'may optionally' is equivalent to 'may'.

SuggestedRemedy

"A 10BASE-T1L PHY may support Energy-Efficient Ethernet (see Clause 78) and advertise the EEE capability during Auto-Negotiation as described in Annex 98B.3."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.3** *P* **87** *L* **14** # 340
Yseboodt, Lennart Signify

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

"A 10BASE-T1L PHY may optionally support the EEE capability, as described in 78.3."

'may optionally' is equivalent to 'may'.

SuggestedRemedy

"A 10BASE-T1L PHY may support the EEE capability, as described in 78.3."

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.3** *P* **179** *L* **7** # 341
Yseboodt, Lennart Signify

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

"In order to minimize TO_TIMER skew across the multidrop network and improve PLCA performance, a PHY may optionally notify the RS of an early receive condition."

'may optionally' is equivalent to 'may'.

SuggestedRemedy

"In order to minimize TO_TIMER skew across the multidrop network and improve PLCA performance, a PHY may notify the RS of an early receive condition."

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.2.3** *P* **179** *L* **39** # 342
Yseboodt, Lennart Signify

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

"Since the PHY may optionally provide early receive indication by the means of CRS and COL MII signals, the plca_crs variable shall be set accordingly as follows:"

a) 'may optionally' is equivalent to 'may'
b) is there a conditional element imparted on the requirement ? I can't deduce this.

SuggestedRemedy

Change to:
"The PHY may optionally provide early receive indication by the means of CRS and COL MII signals.
The plca_crs variable shall be set as follows: ... "

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **18** # 343

Yseboodt, Lennart Signify

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

"If both auto negotiation speeds are supported, a state machine shall be implemented to automatically choose between the different auto negotiation speeds, as described in 98.5.6."

This shall is duplicate to the one on 98.5.6:
"A PHY supporting two different Auto-Negotiation speeds, as described in 98.2.1.1.2 shall implement the behavior shown in Figure 98â€“11."

As a standalone sentence it is vague and untestable.

SuggestedRemedy

Change it to an informative sentence:
"If both auto negotiation speeds are supported, a mechanism is defined in 98.5.6 that automatically makes a choice between the different speeds."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d.4** *P* **41** *L* **41** # 344

Yseboodt, Lennart Signify

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

"While in the low-power mode, the device shall, as a minimum, respond to management transactions necessary to exit the low-power mode."

The 'as a minimum' hints at desired behavior that isn't specified. Either the sentence should state what that is, or be simplified.

SuggestedRemedy

Replace by: "While in the low-power mode, the device shall respond to management transactions necessary to exit the low-power mode."

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.5** *P* **64** *L* **25** # 345

Yseboodt, Lennart Signify

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

In Figure 98-7, transition from COMPLETE ACKNOWLEDGE to NEXT PAGE WAIT, is missing a closing paren at the end.

SuggestedRemedy

Replace arc logic as follows:
"ack_finished = true * mr_next_page_loaded = true * ((tx_link_code_word[NP] = 1) + (np_rx = 1))"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6** *P* **67** *L* **49** # 346

Yseboodt, Lennart Signify

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

"This state machine shall be implemented as top level state machine of the Auto-Negotiation process."

What is a top level state machine ? This is untestable.
Each requirement must have an observable effect at the MDI.

SuggestedRemedy

Strike sentence or re-write to indicate what is meant.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.5.6.4** *P* **77** *L* **29** # 347

Yseboodt, Lennart Signify

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

"When measuring the ripple voltages for a Type E PD as specified by Table 104â€“7 item (3b), the voltage observed at the MDI/PI with the differential probe where f 1 = 3.18 kHz Â± 1% shall be post-processed with transfer function H 2 (f) specified in Equation (104â€“3) where f 2 = 0.1 MHz Â± 1%."

This puts a post-processing requirement on whomever is making the measurement. Requirement must apply at the MDI.

SuggestedRemedy

Rewrite requirement to a measurable effect on the MDI or make informative sentence if not possible.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **40** # 348

Yseboodt, Lennart Signify

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

"A 10BASE-T1L PHY shall be capable of operating as MASTER or SLAVE, per runtime configuration."

Is the intention here that a PHY supports both and this can be configured through runtime ? Or does it get to pick one and not support the other ?

SuggestedRemedy

Option1: "A 10BASE-T1L PHY shall be capable of operating both as MASTER or SLAVE, with one mode active per runtime configuration."

Option2: "A 10BASE-T1L PHY shall be capable of operating as either MASTER or SLAVE."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9** *P* **133** *L* **52** # 349

Yseboodt, Lennart Signify

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

"All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1 (for IT and industrial applications), to IEC 61010-1 (for industrial applications only, if required by the given application)."

Single-pair Ethernet is targeted at a wide diversity of applications. Similarly, 4-pair Ethernet has been used in a wide diversity of applications. The scope and goal of an 802.3 standard is to ensure that two PHYs, connected through a compatible medium, can communicate. It is beyond the scope of this standard to list in detail the 'application', 'installation', or 'end user' requirements that go far beyond PHY interoperability. These are generally untestable and inappropriate in this document.

Only when we are referring to basic electrical safety of the end device is it appropriate to enforce compliant to eg. IEC 60950 or the like.

Regardless of how and where the device is used, it should comply to IEC 60950-1 or IEC 62368-1.
Anything more specific is out of scope for this document.

SuggestedRemedy

Replace by:
"All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.1** *P* **134** *L* **20** # 350

Yseboodt, Lennart Signify

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

"All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards or as agreed to between the customer and supplier."

Customer / supplier relations are out of scope for an 802.3 standard.

SuggestedRemedy

"All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards."

Make the same change in Clause 147.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.2** *P* **134** *L* **26** # 351

Yseboodt, Lennart Signify

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

"All cabling and equipment subject to this clause is expected to be mechanically and electrically secure in a professional manner. In industrial applications, all 10BASE-T1L cabling shall be routed according to any applicable local, state or national standards considering all relevant safety requirements."

Out of scope for an 802.3 standard.

SuggestedRemedy

Bump Subclause 146.9.2.1 and 146.9.2.2 up by one level (H4).
Remove subclause 146.9.2.

Make the same change in Clause 147.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.2.1** *P* **134** *L* **31** # 352
Yseboodt, Lennart Signify

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

"In industrial applications, all equipment subject to this clause shall conform to the potential environmental
stresses with respect to their mounting location, as defined in the following specifications, where applicable:
a) Environmental loads: IEC 60529 and ISO 4892
b) Mechanical loads: IEC 60068-2-6/31
c) Climatic loads: IEC 60068-2-1/2/14/27/30/38/52/78
Industrial environmental conditions are generally more severe than those found in many commercial envi-
ronments. The targeted application environment(s) require careful analysis prior to implementation."

Out of scope for an 802.3 standard.

SuggestedRemedy

Remove subclause 146.9.2.1.

Same change in Clause 147.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.2.2** *P* **134** *L* **43** # 353
Yseboodt, Lennart Signify

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

Complete subclause is out of scope for an 802.3 standard & contains untestable requirements.

SuggestedRemedy

Remove subclause 146.9.2.2.
Same change in Clause 147.

Proposed Response *Response Status* **O**

Cl **00** *SC* **FM** *P* **11** *L* **33** # 354
Yseboodt, Lennart Signify

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

In the descriptive list of the amendments, the following is highlighted in yellow "x and its amendments", where only "x" should be highlighted.

Occurs on line 33, 39, and 47 of page 11.

SuggestedRemedy

Fix as appropriate.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.1** *P* **31** *L* **49** # 355
Yseboodt, Lennart Signify

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

Period missing after sentence on line 49.

SuggestedRemedy

Add period.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d.1** *P* **41** *L* **3** # 356
Yseboodt, Lennart Signify

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

"Resetting the 10BASE-T1S PMA/PMD is accomplished by setting bit 1.2299.15 to a one."

Change 'a one' to 'one'.

SuggestedRemedy

Replace by: "Resetting the 10BASE-T1S PMA/PMD is accomplished by setting bit 1.2299.15 to a one."

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d.5** *P* **41** *L* **53** # 357
Yseboodt, Lennart Signify

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

"The 10BASE-T1S PMA/PMD shall operate in multidrop mode over a mixing segment network when bit 1.2299.10 is set to a one."

SuggestedRemedy

Change "a one" to "one".

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **14** # 358
Yseboodt, Lennart Signify

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

Poorly formed sentence.

"There exist two different auto negotiation speeds, from which at least one auto negotiation speed shall be supported. When performing auto negotiation in high speed mode, DME pages shall be transmitted at a nominal data rate of 16.667 MBit/s. Doing auto negotiation in low speed mode, DME pages shall be trans- mitted at a nominal data rate of 625 kBit/s."

SuggestedRemedy

"Two different auto negotiation speeds are defined in (*** where are they defined). A PHY shall support at least one of these auto negotiation speeds. When performing auto negotiation in high speed mode, DME pages shall be transmitted at a nominal data rate of 16.667 MBit/s. Doing auto negotiation in low speed mode, DME pages shall be trans-mitted at a nominal data rate of 625 kBit/s."

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **25** # 359
Yseboodt, Lennart Signify

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

"When operating in low speed mode, the period, T1, shall be 800.0 ns Â± 0.005 %."

Not English.

SuggestedRemedy

"The period T1 shall be 800.0 ns Â± 0.005 % when operating in low speed mode."

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.4.6.3** *P* **75** *L* **32** # 360
Yseboodt, Lennart Signify

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

"A digital oscilloscope or data acquisition module with a differential probe is used to observe the voltage at the MDI/PI of the PSE device under test (DUT) as shown in Figure 104 7."

Dash missing in Figure 104-7.

SuggestedRemedy

Add dash.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.7.1.3** *P* **79** *L* **41** # 361
Yseboodt, Lennart Signify

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

In the previous Table 104-7 and earlier text the word "Type" (when referring to PSE or PD) was capitalized.
In this Table it is not.

SuggestedRemedy

Change "type" to Type.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.3.1** *P* **101** *L* **1** # 362
Yseboodt, Lennart Signify

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

The state diagram in Figure 146-5 is drawn with a different style from the other state diagrams in this Clause.

SuggestedRemedy

- Black dots are used to denote where lines are merged. No other state diagram does this. Remove the dots (line 36 and 40)
- Label A is in a circle, change this to the typical label drawing (make a consistent style across Clause 146 and 147, they seem to differ on this)
- The arc from TRANSMIT DATA to itself is drawn very close to the state box. Move the TRANSMIT DATA state to the right to avoid this.

Proposed Response *Response Status* **O**

Cl **00** *SC* **FM** *P* **23** *L* **1** # 363

Trowbridge, Steve Nokia

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

The title on page 23 does not match the title at the front of the draft. I think the title on page 1 is correct as the scope is no longer just twisted pair.

SuggestedRemedy

Change "Physical Layer Specifications and Management Parameters for 10 Mb/s Operation over Single Balanced Twisted-pair Cabling and Associated Power Delivery" to "Physical Layer Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.3** *P* **169** *L* **7** # 364

Matheus, Kirsten BMW AG

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

Where do the values for L come from? Unless we use PoDL they seem way to high. It states nowhere if this is optional or for PoDL only

SuggestedRemedy

Needs to be better described in the document.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **173** *L* **27** # 365

Matheus, Kirsten BMW AG

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

"exactly" is not right. We might want to give more than 1 transmit opportunity to every node.

SuggestedRemedy

exchange "exactly" with "minimum" or "at least" or remove the sentence

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.1** *P* **176** *L* **19** # 366

Matheus, Kirsten BMW AG

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

in the text the variable is called rx_cmd with underscore. Is it correct that there is no tx_cmd in the picture?

SuggestedRemedy

exchange "rxcmd" with "rx_cmd"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2** *P* **89** *L* **5** # 367

Matheus, Kirsten BMW AG

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

MDIO arrow needs to go in both directions.

SuggestedRemedy

Edit picture accordingly

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.13b** *P* **24** *L* **18** # 368

Matheus, Kirsten BMW AG

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

"short reach" is not defined. It MIPI it is 30cm, in industrial it is 100m.

SuggestedRemedy

over single balanced twisted-pair cabling up to at least 15m reach.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.5** *P* **25** *L* **46** # 369

Matheus, Kirsten BMW AG

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

OR clause at the end of the sentence makes it ambiguous. It should say what is meant in a clearer way (i.e. that when TX_EN is deasserted, the assertion of TX_ER does not affect the 10Mbps)

SuggestedRemedy

When TX_EC is deasserted, the assertion of TX_ER shall not affect …. (if this is what is meant)

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.5.** *P* **32** *L* **41** # 370

Matheus, Kirsten BMW AG

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

What exactly are PLCA transmit opportunities? It defines the minimum time between the transmissions of two different units. Right?

SuggestedRemedy

defines the minimum time that needs to pass between two transmissions on the link.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c** *P* **47** *L* **9** # 371

Matheus, Kirsten BMW AG

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

the field should not indicate the maximum number of nodes, but the maximum number of Ids. This might not be the same if one node is assigned multiple Ids during one circle.

SuggestedRemedy

Change "nodes" with "nodeIDs"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c** *P* **47** *L* **11** # 372

Matheus, Kirsten BMW AG

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

If a node receives multiple Ids the register needs to be repeated. Not sure whetehr this should be mentioned here.

SuggestedRemedy

I leave it to the group if this is needed or not

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c 1** *P* **47** *L* **20** # 373

Matheus, Kirsten BMW AG

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

Not max number of nodes but of Ids

SuggestedRemedy

Exchange "nodes" with "Node IDS"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.1.3** *P* **73** *L* **10** # 374

Matheus, Kirsten BMW AG

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

The way the paragraph it is written it reads e.g. Type B PSE can be used with Type C PD (for 1000BASE-T1). Is that so? The sentence that begins with A Type C PSD and Type C PD may be compatible with, seems to contain redundant information.

SuggestedRemedy

As I am not sure what is right, I cannot make a proposal. If Type B PSE cannot be used with Type C PD I would reword the complete paragraph such: A Type A PSD and Type A PD can be used with …. A Type B PSD and Type B PD can be used with ….. A Type C PSD and ....

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **19** # 375
Matheus, Kirsten BMW AG

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

is "idle symbols" the right word?

SuggestedRemedy

I suggest to use "idle time" or "idle period" or "IDLE"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.2** *P* **147** *L* **6** # 376
Matheus, Kirsten BMW AG

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

The MDIO arrow in the picture is missing an arrow head in the other direction. The output from the PMA is missing. I am not sure, but should not be the COL and CRS be added?

SuggestedRemedy

MDIO arrow heads in both directions. Add BI_DA+ and BI_DA- to the PMA. Potentially dashed COL and CRS from PCS.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58d.1** *P* **47** *L* **43** # 377
Matheus, Kirsten BMW AG

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

See comment 9. Should be aligned with it

SuggestedRemedy

Align with remedy of comment 9

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.2** *P* **161** *L* **9** # 378
Matheus, Kirsten BMW AG

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

Is 0V confusing.

SuggestedRemedy

Use whatever is correct like "Line needs to be terminated at both ends".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1** *P* **85** *L* **8** # 379
Jones, Chad Cisco

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

superfluous comma. "Together, the PCS, and PMA sublayers comprise a 10BASE-T1L Physical Layer (PHY)."

SuggestedRemedy

delete the second comma.
CHANGE TO: "Together, the PCS and PMA sublayers comprise a 10BASE-T1L Physical Layer (PHY)."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **46** # 380
Jones, Chad Cisco

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

"low cost" should be "low-cost"

SuggestedRemedy

CHANGE TO: "low-cost"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **48** # 381
Jones, Chad Cisco

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

Text in this paragraph is a repeat of the paragraph at line 36. Delete this redundant paragraph.

SuggestedRemedy

delete paragraph at Page 86 Line 48: "A 10BASE-T1L PHY optionally supports Energy-Efficient Ethernet (see Clause 78). The EEE capability is a mechanism by which 10BASE-T1L PHYs are able to reduce power consumption during periods of low link utilization."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.3** *P* **87** *L* **21** # 382
Jones, Chad Cisco

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

missing comma "In the transmit direction the transition to the LPI transmit mode begins when the PCS transmit function"

SuggestedRemedy

CHANGE TO: "In the transmit direction, the transition to the LPI transmit mode begins when the PCS transmit function"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.3** *P* **87** *L* **27** # 383
Jones, Chad Cisco

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

missing comma: "Periodically the transmit function of the local"

SuggestedRemedy

CHANGE TO: "Periodically, the transmit function of the local"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.3** *P* **87** *L* **30** # 384
Jones, Chad Cisco

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

Please translate to English: "The PHY is now starting to transmit an IDLE symbol stream, where loc_lpi_req is de-asserted, thus indicating to the remote PHY, that this PHY is going back to normal transmit mode again."

SuggestedRemedy

CHANGE TO: "The PHY transmits an IDLE symbol stream with loc_lpi_req is de-asserted, indicating to the remote PHY that the local PHY is back to normal transmit mode."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.3** *P* **90** *L* **51** # 385
Jones, Chad Cisco

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

fix the grammar: "The transmitter in a 10BASE-T1L link normally sends over the MDI symbols that represent a MII data stream with framing, scrambling and encoding of data, control information, or idles."

SuggestedRemedy

CHANGE TO: "The transmitter in a 10BASE-T1L link normally sends symbols over the MDI that represent an MII data stream with framing, scrambling and encoding of data, control information, or idles."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.3.1** *P* **91** *L* **5** # 386
Jones, Chad Cisco

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

missing commas: "The PMA_TXMODE.indication specifies to PCS Transmit via the parameter tx_mode what sequence of symbols the PCS should be transmitting."

SuggestedRemedy

CHANGE TO: "The PMA_TXMODE.indication specifies to PCS Transmit, via the parameter tx_mode, what sequence of symbols the PCS should be transmitting."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.4.1** *P* **91** *L* **35** # 387

Jones, Chad Cisco

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

missing commas: "During reception the PMA_UNITDATA.indication conveys to the PCS via the parameter rx_symb_vector the value of symbols detected on the MDI during each cycle of the recovered clock."

SuggestedRemedy

CHANGE TO: "During reception, the PMA_UNITDATA.indication conveys to the PCS, via the parameter rx_symb_vector, the value of symbols detected on the MDI during each cycle of the recovered clock."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.5.1** *P* **92** *L* **5** # 388

Jones, Chad Cisco

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

missing commas: "During transmission, the PMA_UNITDATA.request simultaneously conveys to the PMA via the parameter tx_symb_vector the value of the symbols to be sent over the MDI."

SuggestedRemedy

CHANGE TO: "During transmission, the PMA_UNITDATA.request simultaneously conveys to the PMA, via the parameter tx_symb_vector, the value of the symbols to be sent over the MDI."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.7** *P* **92** *L* **51** # 389

Jones, Chad Cisco

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

typo, extra unintentional character: "operation o of "

SuggestedRemedy

delete the 'o'

Proposed Response *Response Status* **O**

Cl **146** *SC* **146** *P* **94** *L* **0** # 390

Jones, Chad Cisco

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

I got sick of typing up every instance of missing or extra comma. I marked up the draft starting at page 94. It is attached. Also, as the review went on, added other minor editorial fixes other than commas.

SuggestedRemedy

perform changes as shown in submitted PDF markup: "8023cg_D2p0-cjones-markup.pdf"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.3** *P* **114** *L* **37** # 391

Jones, Chad Cisco

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

extra word in sentence: "PMA Receive has the ability to translate the received signals on at the MDI into the PMA_UNITDATA.indication parameter rx_symb_vector."

SuggestedRemedy

delete 'at' from the sentence: "PMA Receive has the ability to translate the received signals on the MDI into the PMA_UNITDATA.indication parameter rx_symb_vector."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.1.1** *P* **121** *L* **10** # 392

Jones, Chad Cisco

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

The agreement between customer and supplier has no business in an 802.3 spec. "and may need to comply with more stringent requirements as agreed upon between customer and supplier." is inappropriate for a interoperability document.

SuggestedRemedy

CHANGE TO: "but may need to comply with more stringent requirements."
Also, this text is repeated below at line 15. change there too.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.2** *P* **121** *L* **20** # 393

Jones, Chad Cisco

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

untestable SHALL: "The test modes described in this sub clause shall be provided to allow testing of the transmitter waveform, transmitter distortion, transmitter jitter, and transmitter droop." shall be provided to whom? And all this shall says is that you must have test modes described in this subclause (oh, and subclause is one word BTW).
Remove the shall.

SuggestedRemedy

CHANGE TO: "The test modes described in this subclause are provided to allow testing of the transmitter waveform, transmitter distortion, transmitter jitter, and transmitter droop."
Unless you mean the test modes shall be implemented by the PHY (which it looks like this is the intent reading on in the section). If so, say that.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.3** *P* **121** *L* **121** # 394

Jones, Chad Cisco

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

"The test fixture shown in Figure 146–17, or its equivalent, is being used in the stated respective tests for measuring the transmitter specifications."
the test fixture is used, not is being used.

SuggestedRemedy

CHANGE TO: "The test fixture shown in Figure 146–17, or its equivalent, is used in the stated respective tests for measuring the transmitter specifications."
Honestly, this sentence is horribly constructed. 'used for the stated respective tests', what tests? the preceding tests? the following tests? the combination? I'd be just as happy if you rewrote the sentence to clarify.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4** *P* **122** *L* **28** # 395

Jones, Chad Cisco

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

"the transmitter shall meet the requirements of this section with a..." which section? You mean subclause 146.5.4? If so please state that.

SuggestedRemedy

replace 'section' with the appropriate subclause link or 'this clause'.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.1** *P* **133** *L* **52** # 396

Jones, Chad Cisco

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

incomplete sentence: "All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1 (for IT and industrial applications), to IEC 61010-1 (for industrial applications only, if required by the given application)." remove the parenthetical and you can see it: "All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1, to IEC 61010-1."

SuggestedRemedy

the problem here is how to properly write the logic of the sentence. You have shall conform to (A or B) and maybe C. I would recommend that it is broken into two shalls:
All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1 for IT and industrial applications. For industrial applications only, all equipment subject to this clause shall conform to IEC 61010-1, if required by the given application.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.1** *P* **134** *L* **20** # 397

Jones, Chad Cisco

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

Agreement between the customer and supplier does not belong in an interoperability spec. "All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards or as agreed to between the customer and supplier." remove this.

SuggestedRemedy

CHANGE TO: "All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.2.2** *P* **134** *L* **43** # 398
Jones, Chad Cisco

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

another inappropriate instance of customer and supplier: "In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference."

SuggestedRemedy

CHANGE TO: "In addition, the system may need to comply with more stringent requirements for the limitation of electromagnetic interference."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.2.2** *P* **134** *L* **48** # 399
Jones, Chad Cisco

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

missing comma and word AND extra word: "Where applicable, *also* testing according to IEC 61326 and NE21 test methods, which are similar *to* or even more severe than a MICE E3 environment *,* shall be done and the following industrial EMC requirements shall be met:"

SuggestedRemedy

CHANGE TO: "Where applicable, testing according to IEC 61326 and NE21 test methods, which are similar to or even more severe than a MICE E3 environment, shall be done and the following industrial EMC requirements shall be met:"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.9.2.2** *P* **135** *L* **4** # 400
Jones, Chad Cisco

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

yet another inappropriate customer and supplier reference. Delete this.

SuggestedRemedy

delete: ", subject to agreement between the customer and the supplier"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **36** # 401
Jones, Chad Cisco

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

"The 10BASE-T1S PHY may operate using full-duplex or half-duplex point-to-point communications on a link segment using a single balanced pair of conductors and supporting up to four in-line connectors and up to at least 15 meters with an effective rate of 10 Mb/s in each direction simultaneously." need comma usage fixes.

SuggestedRemedy

CHANGE TO: "The 10BASE-T1S PHY may operate using full-duplex or half-duplex point-to-point communications on a link segment using a single balanced pair of conductors, supporting up to four in-line connectors and up to at least 15 meters, with an effective rate of 10 Mb/s in each direction simultaneously."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.1** *P* **149** *L* **5** # 402
Jones, Chad Cisco

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

more than one state diagram, fix comma: "The PCS Transmit function shall conform to the PCS Transmit state diagram*s* in Figure 147–4 and
Figure 147–5,*delete comma* and the associated state variables, functions, timers*comma* and messages."
Now that I look at the "state diagrams" it really is just one state diagram but strewn across two figures. This is wrong. The state diagram can be one figure that spans more than one page. change "Figure 147-5" (page 153, line 37) to "Figure 147-4 (continued)".

SuggestedRemedy

CHANGE TO: "The PCS Transmit function shall conform to the PCS Transmit state diagram in Figure 147–4 and the associated state variables, functions, timers, and messages."
and CHANGE "Figure 147-5" to "Figure 147-4 (continued)". Also, search doc and delete any other occurrences of "Figure 147-5", for example page 150, line 15.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.1** *P* **149** *L* **14** # 403

Jones, Chad Cisco

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

"followed by two SSD symbols which replaces the first 16 bits of the packet preamble" symbols replace the first…

SuggestedRemedy

CHANGE TO: "followed by two SSD symbols which replace the first 16 bits of the packet preamble"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **18** # 404

Jones, Chad Cisco

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

delete "and Figure 147-9". Also combine Figure 147-8 and 147-9 into one figure.

SuggestedRemedy

Delete "and Figure 147-9".
Also page 157, line 32, rename "Figure 147-9" to "Figure 147-8 (continued)"
also, search doc and delete any other occurrence of "Figure 147-9"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **21** # 405

Jones, Chad Cisco

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

missing word: "can still be detected by the PMA exploiting the absence of DME activity on the line." BY exploiting the absence?

SuggestedRemedy

CHANGE TO: "can still be detected by the PMA by exploiting the absence of DME activity on the line."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.1.1** *P* **161** *L* **51** # 406

Jones, Chad Cisco

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

another inappropriate occurrence of customer and supplier. "The sensi- tivity of the PMA's receiver to RF CM noise may be tested according to the DPI method of IEC 62132-4, and may need to comply with more stringent requirements as agreed upon between customer and supplier."

SuggestedRemedy

CHANGE TO: "The sensitivity of the PMA's receiver to RF CM noise may be tested according to the DPI method of IEC 62132-4, and may need to comply with more stringent requirements."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.1.2** *P* **162** *L* **4** # 407

Jones, Chad Cisco

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

another inappropriate instance of customer and supplier: "and may need to comply with more stringent requirements as agreed upon between customer and supplier."

SuggestedRemedy

CHANGE TO: "and may need to comply with more stringent requirements ."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.6** *P* **166** *L* **5** # 408

Jones, Chad Cisco

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

"When the PHY is in the PMA local loopback mode, if the PHY supports full-duplex mode of operation, the PMA Receive function utilizes the echo signals from the unterminated MDI and decodes these signals to pass the data back to the MII Receive interface.
If the PHY supports half-duplex mode of operation, the PMA and PCS Receive functions shall pass to the MII RX the data decoded from the signal which is normally received during a transmission for the purpose of detecting collisions."
seems the second paragraph also needs the "When the PHY is in the PMA local loopback mode"

SuggestedRemedy

Either:
Add "When the PHY is in the PMA local loopback mode," to the front of the paragraph at line 5.
or:
delete line feed at line 5, adding the sentence at line 5 to the paragraph at line 1.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.2** *P* **168** *L* **31** # 409

Jones, Chad Cisco

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

"based on imped- ance Equation (147–6) "

SuggestedRemedy

CHANGE TO: "based on THE impedance IN Equation (147–6)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.2** *P* **168** *L* **37** # 410

Jones, Chad Cisco

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

EQ 147-6. The font for the numerator is HUGE. Fix it.

SuggestedRemedy

change font in numerator of Eq 147-6 to match the rest of the Eq.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.1** *P* **169** *L* **39** # 411

Jones, Chad Cisco

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

yet another inappropriate customer and supplier reference. "All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national motor vehicle standards or as agreed to between the customer and supplier." Delete this.

SuggestedRemedy

CHANGE TO: "All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national motor vehicle standards."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.2** *P* **169** *L* **45** # 412

Jones, Chad Cisco

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

to untestable SHALLS in this section. Replace 'shall be' with 'is' in two spots.

SuggestedRemedy

REPLACE: "shall be" with "is" on line 45 and line 47

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.2.2** *P* **170** *L* **25** # 413

Jones, Chad Cisco

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

yet another inappropriate customer and supplier reference. "In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference."

SuggestedRemedy

CHANGE TO: "In addition, the system may need to comply with more stringent requirements for the limitation of electromagnetic interference."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8** *P* **167** *L* **28** # 414

Jones, Chad Cisco

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

"A mixing segment is specified based on automotive cabling supporting up to at least eight nodes and 25 m of cabling." this sentence implies that only automotive cabling is allowed. discussed this with the Chair, he informs that the mixing channel was DERIVED based upon automotive cabling. Therefore, it is much more accurate to say that. Also, let people know you can do more if you meet the cabling requirements.

SuggestedRemedy

CHANGE TO: "The mixing segment specification is derived from automotive cabling supporting up to at least eight nodes and 25 m of cabling. Larger PHY count and reach may be achieved provided the mixing segment specifications in this subclause are met."

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.1** *P* **178** *L* **43** # 415

Jones, Chad Cisco

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

"PHY specifications are free to map the BEACON request to any suitable line coding as long as the requirement defined herein are met."
a requirement IS met. REQUIREMENTS are met.

SuggestedRemedy

Make requirement plural.
Also, make the same change in 148.4.4.1.2 on page 179, line 1.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **180** *L* **8** # 416

Jones, Chad Cisco

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

"The PLCA Control function shall conform to the PLCA Control state diagram in Figure 148–4 and Figure 148–5 and associated state variables, functions, timers and messages."
delete "and Figure 148-5"
combine Figures 148-4 and 148-5 into one figure.
Search for other instances of "Figure 148-5" and delete or correct as needed.

SuggestedRemedy

delete "and Figure 148-5" page 180 line 8
combine Figures 148-4 and 148-5 into one figure (page 181-183).
Rename "Figure 148-5" to "Figure 148-4 (continued)"
Search for other instances of "Figure 148-5" and delete or correct as needed.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **180** *L* **43** # 417

Jones, Chad Cisco

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

fix the English: "At this point, if the plca_crs variable is set to TRUE, the control state machine goes to RECEIVE state *for actually receiving* the packet"

SuggestedRemedy

CHANGE TO: ""At this point, if the plca_crs variable is set to TRUE, the control state machine goes to RECEIVE state *to receive* the packet"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **186** *L* **1** # 418

Jones, Chad Cisco

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

another State Diagram split across two figures.
"The PLCA Data function shall conform to the PLCA Data state diagram in Figure 148–6 and Figure 148–7 and associated state variables, functions, timers and messages."

SuggestedRemedy

delete "and Figure 148-7"
combine Figures 148-6 and 148-7 into one figure.
Rename "Figure 148-7" to "Figure 148-6 (continued)"
Search for other instances of "Figure 148-7" and delete or correct as needed.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **186** *L* **41** # 419
Jones, Chad Cisco

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

fixing the English: "... to prevent the MAC *to make* new transmit attempts until PLCA …"

SuggestedRemedy

CHANGE TO: "... to prevent the MAC *from making* new transmit attempts until PLCA …"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.20.1.1.1** *P* **204** *L* **16** # 420
Jones, Chad Cisco

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

commas in table that should be decimals

SuggestedRemedy

the rows for 18 and 19AWG, CHANGE "0,0233" to "0.0233" and "0,0294" to "0.0294"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.20.1.2** *P* **204** *L* **32** # 421
Jones, Chad Cisco

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

"The spur link sections provides power..." Spur Link sections PROVIDE power

SuggestedRemedy

CHANGE TO: "The spur link sections provide power.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.3** *P* **168** *L* **45** # 422
Jones, Chad Cisco

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

This section is titled MDI fault tolerance but includes tolerance of PoDL voltages which is a normal operating condition. On top of it, this compound shall statement potentially makes it difficult to parse the requirements. Suggest to split this into two sections and split the requirements into two shalls.
I also took the liberty to rearrange the sentence structure for easier parsing.

SuggestedRemedy

Break 147.9.3 into two sections.
REPLACE 147.9.3 with:
147.9.3 MDI PoDL voltage tolerance
The wire pair of the MDI shall withstand without damage the application of positive voltages of up to 60 V dc with the source current limited to 1200 mA, under all operating conditions, for an indefinite period of time. This requirement ensures that all devices tolerate PoDL voltages even if the device does not require power.
147.9.4 MDI fault tolerance
The wire pair of the MDI shall withstand without damage the application of short circuits of any wire to the other wire of the same pair or ground potential, as per Table 147–4, under all operating conditions, for an indefinite period of time. Normal operation shall resume after the short circuit(s) is/are removed.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.8.4** *P* **133** *L* **33** # 423

Jones, Chad — Cisco

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

This section is titled MDI fault tolerance but includes tolerance of PoDL voltages which is a normal operating condition. On top of it, this compound shall statement potentially makes it difficult to parse the requirements. Suggest to split this into two sections and split the requirements into two shalls.
I also took the liberty to rearrange the sentence structure for easier parsing while also fixing some editorial errors.

SuggestedRemedy

Break 146.8.4 into two sections.
REPLACE 146.8.4 with:
146.8.4 MDI PoDL voltage tolerance
For industrial applications, the wire pair of the MDI shall withstand without damage the application of positive voltages of up to 60 V dc with the source current limited to 1200 mA, under all operating conditions, for an indefinite period of time. This requirement ensures that all devices tolerate PoDL voltages even if the device does not require power.
146.8.5 MDI fault tolerance
For industrial applications, the wire pair of the MDI shall withstand without damage the application of short circuits of any wire to the other wire of the same pair or ground potential, as per Table 146–8, under all operating conditions, for an indefinite period of time. Normal operation shall resume after the short circuit(s) is/are removed.
The wire pair of the MDI shall also withstand without damage high-voltage transient noises and ESD per application requirements. The following table gives an overview about possible connection faults for the wire pair (BI_DA+ and BI_DA-):
Note: Typically, industrial control circuits are SELV/PELV limited to a maximum voltage of 60 V. The maximum current is limited by the 50-ohm termination resistors in each signal line. Depending on the internal structure of the PHY IC additional external clamping diodes could be necessary. Due to the AC signal coupling the maximum current is only applied while charging the signal coupling capacitors.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.173** *P* **35** *L* **52** # 424

Wienckowski, Natalie — General Motors

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

This is not the correct section based on P8023_D3p2.

SuggestedRemedy

Change to Section 45.2.1.185 and change Table 45-141 to 45-149.
Also change 45.2.1.174x and all subsections to 45.2.1.186x and change Tables 45-142x to Tablex 45-150x.

Proposed Response *Response Status* **O**

Cl **00** *SC* **cover page** *P* **1** *L* **34** # 425

Wienckowski, Natalie — General Motors

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

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair copper cabling" to "single balanced pair of conductors".

Proposed Response *Response Status* **O**

Cl **01** *SC* **1** *P* **23** *L* **13** # 426

Wienckowski, Natalie — General Motors

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

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.13a** *P* **24** *L* **15** # 427

Wienckowski, Natalie — General Motors

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

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.13b** *P* **24** *L* **19** # 428

Wienckowski, Natalie — General Motors

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

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.9.4** *P* **82** *L* **26** # 429
Wienckowski, Natalie General Motors

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

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair" to "single balanced pair of conductors".

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **41** # 430
Wienckowski, Natalie General Motors

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

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair copper cable" to "single balanced pair of conductors".

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.1.3.3.1** *P* **57** *L* **10** # 431
Wienckowski, Natalie General Motors

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

This is not the correct section based on P8023_D3p2.

SuggestedRemedy

Move "Table 78-1 - Clauses associated with each PHY or interface type" to section "78.1.4 PHY types optionally supporting EEE".

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.2** *P* **57** *L* **40** # 432
Wienckowski, Natalie General Motors

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

missing row for 10BASE-T1S. This is in Table 78-1 so it needs the parameters defined for it.

SuggestedRemedy

Add row for 10BASE-T1S with appropriate values or add 10BASE-T1S in the same row as 10BASE-T1L.
The same needs to be done for table 78-4 in section 78.5.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **30** *L* **8** # 433
Wienckowski, Natalie General Motors

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

OAM 30.3.3 box was not removed from Figure 30-3

SuggestedRemedy

Remove OAM box from Figure 30-3.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.185.2** *P* **36** *L* # 434
Wienckowski, Natalie General Motors

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

Missing subclause

SuggestedRemedy

Add the following Editor Instruction and text: Insert the following text after the third sentence of 45.2.1.185.2 as follows: When these bits are set to 0010, the mode of operation is 10BASE-T1L. When these bits are set to 0011, the mode of operation is 10ASE-T1S.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58a** *P* **44** *L* **28** # 435
Wienckowski, Natalie General Motors

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

Assuming the registers are supposed to be in order, this is not the correct subsection.

SuggestedRemedy

Change 45.2.3.58x to 45.2.3.68x.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **19** # 436
Wienckowski, Natalie General Motors

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

The MDI is not part of the PHY and should not be shaded in Figure 146-1.

SuggestedRemedy

Remove shading on MDI "box" in Figure 146-1.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **34** # 437
Wienckowski, Natalie General Motors

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

missing period

SuggestedRemedy

Add period at end of last sentence in the paragraph.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.3** *P* **88** *L* **4** # 438
Wienckowski, Natalie General Motors

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

poor wording, remove "a" in front of "descriptive text"

SuggestedRemedy

Change: discrepancy between a state diagram and a descriptive text
To: discrepancy between a state diagram and descriptive text

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.2.7** *P* **92** *L* **51** # 439
Wienckowski, Natalie General Motors

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

extraneous "o"

SuggestedRemedy

Change: whether reliable operation o of the
To: whether reliable operation of the

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **146** *L* **20** # 440
Wienckowski, Natalie General Motors

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

The shaded boxes are supposed to represent PHY sublayers. The MDI is not a PHY sublayer.

SuggestedRemedy

Remove the shading from the MDI box in Figure 147-1.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.3** *P* **118** *L* **50** # 441
Wienckowski, Natalie General Motors

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

Inconsistancy of naming diagram when broken into 2, 146-14 (part a), 146-15 (part b) while 147- 4 (1 of 2), 147-5 (2 of 2) and 147-8 (1 of 2), 147-9 (2 of 2).

SuggestedRemedy

Pick one method and use it throughout the entire document.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.1** *P* **161** *L* **40** # 442
Wienckowski, Natalie General Motors

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

Don't copy the text from 96.5.1.x, refer to it as Section 97.5.1.x does.

SuggestedRemedy

Remove text and use suggested reference text from 97.5.1.x.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.1** *P* **169** *L* **38** # 443
Wienckowski, Natalie General Motors

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

ISO 26262 does not apply to all automotive applications.

SuggestedRemedy

Change: All equipment subject to this clause and intended for motor vehicle applicastions shall conform to ISO 26262.
To: All equipment subject to this clause and intended for motor vehicle applicastions shall conform to ISO 26262 only if required by the given application.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.2.1.3** *P* **31** *L* **13** # 444
Wienckowski, Natalie General Motors

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

aPhyTypeList section is missing

SuggestedRemedy

Copy 30.2.2.1.2 in its entirety to 30.3.2.1.3 with the title aPhyTypeList. The rest of the copied content remains unchanged.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.2** *P* **33** *L* **9** # 445
Wienckowski, Natalie General Motors

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

Editor instruction is wrong. The 10BASE PHYs should all be together in the list.

SuggestedRemedy

Change the editor's instruction to be: Insert the following new entries in APPROPRIATE SYNTAX after the entry for "10PASS-TS".

Proposed Response *Response Status* **O**

Cl **98** *SC* **98B.3** *P* **197** *L* **21** # 446
Wienckowski, Natalie General Motors

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

Why do we keep leaving "Reserved" bits between the PHY ability bits? 802.3ch will be adding another 3 types. This will actually take up 6 more bits if we continue to follow this process.

SuggestedRemedy

Move 10BASE-T1L ability to A3.
Move 10BASE-T1S ability to A4.
Alternatively, the reserved bit of A1 could be used and these could use A1 and A3.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **1** *L* **34** # 447
Booth, Brad Microsoft

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

The PAR calls out “single balanced pair of conductors” but there are multiple instances where the term has been modified to be “single balanced twisted-pair”. While twisted-pair cabling could be used, that is different than single balanced pair.

SuggestedRemedy

Make sure the use of “twisted-pair” applies to a medium used to support the PHY; otherwise, the use of the term is in conflict with the PAR.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.2.2** *P* **132** *L* **17** # 448
Ewen, John GlobalFoundries

Comment Type **E** *Comment Status* **X**
Equation 146-14 uses "log" without the subscript "10" while similar equations in this section include the subscript.

SuggestedRemedy
Add the "10" subscript to "log" to be consistent with similar equations within the sub-clause

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.8.4** *P* **133** *L* **41** # 449
Ewen, John GlobalFoundries

Comment Type **E** *Comment Status* **X**
The phrase "The following table" is not a specific reference.

SuggestedRemedy
Replace "The following table" with "Table 146-8"

Proposed Response *Response Status* **O**

Cl **01** *SC* **1** *P* **24** *L* **1** # 450
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
Missing anything about PAUSE. At least needs update of Annex 31B. See 802.3bz as an example

SuggestedRemedy
At least Annex 31B needs to be updated. See 802.3bz as an example

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **18** # 451
Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**
Add PLCA definition or forward reference before first use. Same for BEACON, COMMIT, and any other new terms

SuggestedRemedy
As per comment

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3** *P* **27** *L* **1** # 452
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
22.3 PICS is a place holder

SuggestedRemedy
Complete this section as edit instructions from 22.8 (802.3-2015) considering text changes

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **30** *L* **25** # 453
Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**
What's the | underneath oResourceTypeID

SuggestedRemedy
Remove

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.1** *P* **30** *L* **51** # 454
Jones, Peter Cisco

Comment Type **T** *Comment Status* **X**
why isn't PLCA green like the others

SuggestedRemedy
fix if needed

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2** *P* **31** *L* **37** # 455
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
All BEHAVIOUR DEFINED descriptions should have cross references added

SuggestedRemedy
Add them

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.3** *P* **32** *L* **19** # 456
Jones, Peter Cisco

Comment Type **ER** *Comment Status* **X**
Replace "The value of aPLCAMaxID" with "This value"

SuggestedRemedy
Make suggested change

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.4** *P* **32** *L* **30** # 457
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
Replace "The value of aPLCALocalNodeID" with "This value"

SuggestedRemedy
Make suggested change

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.5** *P* **32** *L* **41** # 458
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
Replace "The value of PLCATransmitOpportunityTimer" with "This value"

SuggestedRemedy
Make suggested change

Proposed Response *Response Status* **O**

Cl **45** *SC* **45** *P* **35** *L* **1** # 459
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
Lots of missing forward references, e.g., 45.2.1.174a.5 Low-power (1.2294.11)

SuggestedRemedy
Add references into new clauses

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a.5** *P* **37** *L* **27** # 460
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
It's not clear to me how this relates to LPI or low power idle mode (146.2.10.3 Effect of receipt). Either use the same terms, or explain how they are different, and use clearly different terms. If the are the same, why do we need this as well as EEE. I can't find low-power mode in clause 146.The NOTE about interruption doesn't match the requirements for EEE.

SuggestedRemedy
Clairfy "Low-power" vs "low-power-idle".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d.4** *P* **41** *L* **34** # 461
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
How does this relate to LPI low-power-idle mode?

SuggestedRemedy
Clairfy "Low-power" vs "low-power-idle".

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d.1** *P* **41** *L* **14** # 462
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
Why does this say "may"?

SuggestedRemedy
Change to "Interruption to data communication is expected."

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **15** # 463
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
Where is the requirement for autonegotiation high speed mode stated?

SuggestedRemedy
Add explanatory text

Proposed Response *Response Status* **O**

Cl **98** *SC* **98** *P* **59** *L* **1** # 464
Jones, Peter Cisco

Comment Type **ER** *Comment Status* **X**
Why use "single differential-pair media" instead of "Single-Pair Ethernet" as used in the title of this standard

SuggestedRemedy
Change to "Single-Pair Ethernet"

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.1.3** *P* **73** *L* **6** # 465
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
PoDL is not applicable to multidrop mixing segment

SuggestedRemedy
Add clairfying statement

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.1.3** *P* **73** *L* **10** # 466
Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**
This text should be table, as text it's close to unreadable

SuggestedRemedy
Convert this to a table

Proposed Response *Response Status* **O**

Cl **146** *SC* **146** *P* **85** *L* **53** # 467
Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**
I don't see the note about PICS proforma copyright release in other 802.3 standards, why is it needed

SuggestedRemedy
Remove

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.2** *P* **87** *L* **10** # 468
Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**
Strike out "at 7.5 MBd"

SuggestedRemedy
Make suggested change

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1** *P* **106** *L* **8** # 469

Jones, Peter Cisco

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

this seems be a poorly defined version of the jabber functionality defined for 10BASE2 and 10BASE5 (the other multidrop PHYs) but defined on the RX path instead of the TX path. I believe that we should use the existing jabber related definitions (1.4.242 and 1.4.243) and terminology, take the text from "10.3.1.4 Jabber functional requirements" (with appropriate changes), and implement a version of "Figure 10 3 Jabber function state diagram" with appropriate changes.
Clause 1 definitions.
1.4.242 jabber: A condition wherein a station transmits for a period of time longer than the maximum permissible packet length, usually due to a fault condition.
1.4.243 Jabber function: A mechanism for controlling abnormally long transmissions (i.e., jabber).
Clause 10 text
10.3.1.4 Jabber functional requirements The MAU shall contain the capability as defined in Figure 10 3 to interrupt a transmission from a DO circuit that exceeds a time duration determined by the MAU.....

SuggestedRemedy

Make suggested changes, see comments from Piergiorgio Beruto

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1** *P* **106** *L* **19** # 470

Jones, Peter Cisco

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

Replace "ESD4 and ERR_ESD4, see 1" with ""ESD4 and ERR_ESD4 values see"

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1** *P* **35** *L* **26** # 471

Jones, Peter Cisco

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

Table 45–3 - different style than 1.2296 and 1.2296. Be consistent

SuggestedRemedy

Fix style

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1** *P* **35** *L* **11** # 472

Jones, Peter Cisco

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

Why is there a gap between PMA status and test mode control

SuggestedRemedy

Fix if needed

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1** *P* **109** *L* **15** # 473

Jones, Peter Cisco

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

Figure 146–10—JAB state diagram - JAB is undefined. I believe that this should be Jabber function state diagram, and should be patterned after Figure 10 3 Jabber function state diagram

SuggestedRemedy

Make suggested changes, see comments from Piergiorgio Beruto

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.5** *P* **112** *L* **32** # 474
Jones, Peter Cisco

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

Remove " PCS loopback mode is enabled"

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.3** *P* **115** *L* **19** # 475
Jones, Peter Cisco

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

Why is PMA Receive fault optional and not mandatory

SuggestedRemedy

clarify

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4** *P* **115** *L* **27** # 476
Jones, Peter Cisco

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

This says "via management control during initialization or via default hardware setup." I think these are the same thing from this documents point of view. We don't say where the manangement control got it's data, and we don't define hardware.

SuggestedRemedy

Strike out via "default hardware setup"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4** *P* **115** *L* **39** # 477
Jones, Peter Cisco

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

predetermined configuration available doesn't make sense in this standard. How/where are the filter coefficients passed to the PMA? They should come in via the MDIO - see Figure 146 2 10BASE-T1L PHY interfaces

SuggestedRemedy

Replace "If there is no predetermined configuration available, the maximum time, until link_status = OK is reached, shall be less than 3000 ± 30 ms. If there is a predetermined configuration available (a set of valid filter coefficients is available), the maximum time from power_on" with "If valid filter coefficients are not provided, the maximum time until link_status = OK is reached shall be less than 3000 ± 30 ms. Otherwise, , the maximum time from power_on "

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4** *P* **115** *L* **44** # 478
Jones, Peter Cisco

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

Where is "fast startup" defined/described. Why is this note neeed?

SuggestedRemedy

delete the note

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.2** *P* **117** *L* **29** # 479
Jones, Peter Cisco

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

This says "the PHYs may not immediately drop the link", Is the may supposed to trigger an optional PICS entry

SuggestedRemedy

rewrite or delete the note

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.1** *P* **120** *L* **53** # 480
Jones, Peter Cisco

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

This says "Direct Power Injection (DPI) and 150 □ emission tests for noise immunity and emission as per 146.5.1.1
and 146.5.1.2 may be used to establish a baseline for PHY EMC performance. ". Why is this a MAY? Are there other ways to do it defined in the standard? Should this trigger a PICS?

SuggestedRemedy

Review text, change is needed.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.1.2** *P* **121** *L* **14** # 481
Jones, Peter Cisco

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

Change "may be tested according" to " shall be tested according"

SuggestedRemedy

make proposed change

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.1.1** *P* **121** *L* # 482
Jones, Peter Cisco

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

A number of places in the draft say "and may need to comply with more stringent requirements as agreed upon between customer and supplier", "subject to agreement between the customer and the supplier", or similar. This is not relevant to a standard.

SuggestedRemedy

remove all instances of this type of phrase.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.1.1** *P* **121** *L* # 483
Jones, Peter Cisco

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

Change "RF CM noise may be tested according" to "RF CM noise shall be tested according"

SuggestedRemedy

make proposed change

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.1** *P* **121** *L* **1** # 484
Jones, Peter Cisco

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

The sentence "Additional tests may be needed to verify EMC performance in various configurations, applications, and conditions." adds no value

SuggestedRemedy

make proposed change

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.1** *P* **122** *L* **32** # 485
Jones, Peter Cisco

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

I'd really like some overview text in 146.1 Overview explaining the need for 2 voltage levels

SuggestedRemedy

Add text to overview section explaining why we have 2 voltage levels

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.5** *P* **124** *L* **29** # 486
Jones, Peter Cisco

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

Why is this in MBd instead of MHz

SuggestedRemedy

change to MHz

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1** *P* **135** *L* **8** # 487
Jones, Peter Cisco

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

Add PAUSE reaction times.Add cable delay info - from 802.3bz 126.11
NOTE—The physical medium interconnecting two PHYs introduces additional delay in a link.
Equation (80-1) specifies …

SuggestedRemedy

Make suggested changes

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **16** # 488
Jones, Peter Cisco

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

Replace "allowing implementers to provide their own cabling" with "allowing implementers to specify their own cabling".

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **19** # 489
Jones, Peter Cisco

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

no idle symbols, replace "silent during idle symbols making it inherently" with "silent during idle making it inherently"

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **46** # 490
Jones, Peter Cisco

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

Many parts of the text missing building automation as an applucation.. Replace "industrial, automotive and automation controls" with "industrial, automotive and building automation controls".

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **154** # 491
Jones, Peter Cisco

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

Change to use a consistent approach to jabber modeled after clause 10 as per previous comments.

SuggestedRemedy

Make suggested changes

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.1** *P* **161** *L* **38** # 492
Jones, Peter Cisco

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

802.3bz includes the following in "126.5.4.3 Rejection of External EM Fields" "Operational requirements of the transceiver during the test are determined by the manufacturer". Add this to 147.5.1

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.7** *P* **166** *L* **27** # 493
Jones, Peter Cisco

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

Change "such as industrial, automotive and automation controls" to "such as industrial, automotive and building automation controls"

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8** *P* **167** *L* **28** # 494
Jones, Peter Cisco

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

Change "A mixing segment is specified based on automotive cabling" to "A mixing segment is specified based on cabling".

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.1** *P* **169** *L* **40** # 495
Jones, Peter Cisco

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

Change "any applicable local, state, or national motor vehicle standards or as agreed to between the customer and supplier." to "any applicable local, state,or national standards."

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.2** *P* **169** *L* **42** # 496
Jones, Peter Cisco

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

The "Network Safety" clause is a lot smaller than 3bz "126.9.2 Network safety". Since this will be used in similar or worse environments, why don't we have the same material? 802.3bz starts with "This subclause sets forth a number of recommendations and guidelines related to safety concerns; the list is neither complete nor does ... '

SuggestedRemedy

Review 802.3bz "126.9.2 Network safety" and carry across text as appropriate.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.2** *P* **169** *L* **42** # 497
Jones, Peter Cisco

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

Add "The designer is urged to consult the relevant local, national, and international safety regulations to ensure compliance with the appropriate requirements." from 3bz 126.9.2 Network safety

SuggestedRemedy

Make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.2.1** *P* **169** *L* **50** # 498
Jones, Peter Cisco

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

This clause contains lists of automotive and industrial environments, but is missing building environments

SuggestedRemedy

Add appropriate standards

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.10.2.2** *P* **170** *L* **28** # 499
Jones, Peter Cisco

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

The text says "10BASE-T1S PHY shall be tested according to IEC CISPR 25 test methods...". CISPR 25 seems to be only applicable to automotive environments (https://webstore.iec.ch/publication/26122 CISPR 25:2016 Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receiver)

SuggestedRemedy

Either remove the CISPR 25 tesr, add equievelent tests for industrial and building environments, or expalin how CISPR 25 applies to industrial and building environments.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.11** *P* **170** *L* **31** # 500
Jones, Peter Cisco

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

Add PAUSE reaction times

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.12** *P* **171** *L* **1** # 501
Jones, Peter Cisco

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

Complete PICs

SuggestedRemedy

Complete PICs

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **173** *L* **20** # 502
Jones, Peter Cisco

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

Change "its assigned unique node ID" to "its assigned unique node ID (set via management control)".

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **173** *L* **19** # 503
Jones, Peter Cisco

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

Change "is granted, in turn, a single transmit opportunity" to "is granted transmit opportunities"

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **173** *L* **25** # 504
Jones, Peter Cisco

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

Text says "Transmit opportunities are generated in a round-robin fashion". This should be the simplest, but not the only, option. Need to enable management to tweak this to weight the shares of the media.

SuggestedRemedy

remove "round-robin fashion"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **173** *L* **26** # 505
Jones, Peter Cisco

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

Text states "This can only happen after each PHY has been given exactly one transmit opportunity, thus ensuring media access fairness." I believe that it is a requirement to allow weighting of transmission oppertunities . Also, the media is fair only on a frame basis, not on a byte basis

SuggestedRemedy

Change "This can only happen after each PHY has been given exactly one transmit opportunity, thus ensuring media access fairness." to "This happen after each PHY has had it's transmisson oppertunity/oppertunities. "

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.3** *P* **173** *L* **29** # 506
Jones, Peter Cisco

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

Chamge "PLCA relies on CSMA/CD functions to have the MAC delay a transmission" to "PLCA relies on the COL signal to have the MAC delay transmission"

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1** *P* **178** *L* **29** # 507
Jones, Peter Cisco

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

I'd really like to see more high level description of what BEACON and COMMIT are used for, before diving into the details. Please add more descriptive text on the uses of these to 148.2.

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.3** *P* **179** *L* **6** # 508
Jones, Peter Cisco

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

What is TO_TIMER skew, and why should I care? reword to explain what's really happening

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **180** *L* **14** # 509
Jones, Peter Cisco

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

Need to add some text stating that local_nodeID must be set before setting plca_en = O

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **180** *L* **27** # 510
Jones, Peter Cisco

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

A lot of the rest of the text in this clause feels like a text version of the state machine. Remove, or make easily readable

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **180** *L* **23** # 511
Jones, Peter Cisco

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

Why is this equation buried in text

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **181** *L* **20** # 512
Jones, Peter Cisco

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

Figure 148–4—PLCA Control state diagram (1 of 2) - Need to check local_nodeID greater than MAX_ID - plca_en = ON * local_nodeID != 0 * local_nodeID < MAX_ID

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.2** *P* **184** *L* **45** # 513
Jones, Peter Cisco

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

Aren't the "When MDIO is present" and "When MDIO is not present" cases the same from the 802.3 point of vew? Similar comment in lots of places where the text says "When MDIO is not present <snip> can be provided by equivalent means"

SuggestedRemedy

remove text discussing operation when MDIO is not present.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.4** *P* **185** *L* **35** # 514
Jones, Peter Cisco

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

Change "enough to allow any PHY that meets its own transmit opportunity to have the first nibble " to "enough to alow the transmitting PHY to have the first nibble "

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.4** *P* **185** *L* **35** # 515
Jones, Peter Cisco

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

Change "Timer" to "The timer"

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.3** *P* **185** *L* **3** # 516

Jones, Peter — Cisco

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

Check MAX_ID range. Both 0 and 255 don't make sense. Range should be 1 - 254

SuggestedRemedy

make suggested change

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.2.1** *P* **98** *L* **4** # 517

Maguire, Valerie — The Siemon Company

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

Clause 22.2.2.5 is in the amendment.

SuggestedRemedy

Make 22.2.2.5 a cross-reference and remove the "External" character tag

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 518

Beruto, Piergiorgio — Canova Tech Srl

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

Timer done / not done events name in state diagrams are not inline with convenctions used in other clauses

SuggestedRemedy

Replace all occurrences of "XXX Done" with "XXX_done" (all lowercase) and similarly "!XXX Done" or "XXX not Done" with "XXX_done = FALSE" (all lowercase) throughout all the clauses. XXX is a placeholder for the timer name. NOTE: resolve this comment when all other comments are resolved already.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.5** *P* **156** *L* **21** # 519

Beruto, Piergiorgio — Canova Tech Srl

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

Recirculating arc in WAIT_SSD state of figure 147-8 is not needed

SuggestedRemedy

In figure 147-8 delete the recirculating arc along with the ELSE condition.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **181** *L* **30** # 520

Beruto, Piergiorgio — Canova Tech Srl

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

Exit condition from RECOVER state in figure 148-4 is potentially ambiguous with respect to "plca_eri" expression

SuggestedRemedy

In figure 148-4 append "* plca_eri = FALSE" condition to the transition from state RECOVER to SEND_BEACON.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **187** *L* **45** # 521

Beruto, Piergiorgio — Canova Tech Srl

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

Exit conditions from HOLD state in figure 148-6 are potentially ambiguous with respect to "RECV_TIMER" expression

SuggestedRemedy

In figure 148-6 append "* RECV_TIMER not done" in all the transitions from HOLD state, except the connection between the HOLD state and the "A" off-page connector.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **187** *L* **25** # 522
Beruto, Piergiorgio Canova Tech Srl

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

Exit conditions from state "IDLE" in figure 148-6 are potentially ambiguous

SuggestedRemedy

In figure 148-6 append condition "* plca_crs = FALSE" to the transition from "IDLE" to "HOLD" state

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **187** *L* **25** # 523
Beruto, Piergiorgio Canova Tech Srl

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

Exit conditions from state "RECEIVE" in figure 148-6 are potentially ambiguous

SuggestedRemedy

In figure 148-6 append condition "* plca_txen = FALSE" to the transition from "RECEIVE" to "IDLE" state

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.5** *P* **156** *L* **21** # 524
Beruto, Piergiorgio Canova Tech Srl

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

In figure 147-8 the condition in the transition from "WAIT_SSD" to "FALSE_CARRIER" state is buggy. From "WAIT_SSD" state you have to make a one-time decision to go in "FALSE_CARRIER" or "PRE" state depending on whether the received symbol is the second SSD or not.

SuggestedRemedy

In figure 147-8 remove the "* Rxn ≠ SYNC" from the condition in the transition from "WAIT_SSD" to "FALSE_CARRIER" state.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.5** *P* **156** *L* **21** # 525
Beruto, Piergiorgio Canova Tech Srl

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

In figure 147-8 the state named "SYNC" could be renamed to "SYNCING" for disambiguation with "SYNC" symbol.

SuggestedRemedy

In figure 147-8 rename "SYNC" state to "SYNCING".

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.4.2** *P* **164** *L* **37** # 526
Beruto, Piergiorgio Canova Tech Srl

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

Lower PSD mask is too low, achieving proper SNR to keep target BER of 10^-10 is impossible under worst case noise conditions. Rising the lower PSD mask by 8db still yields 0.8Vpp of signal.

SuggestedRemedy

In equation 147-2 change "-95 + 2f" to "-87 + 2f"
In equation 147-2 change "-55 - 2f" to "-47 - 2f"
Update figure 147-15 to reflect the changes

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58c.1** *P* **47** *L* **18** # 527
Beruto, Piergiorgio Canova Tech Srl

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

[MASTER] [MAX_ID] MAX_ID definition is not consistent to its usage in Clause 148

SuggestedRemedy

Replace "define the number of maximum nodes that can be handled on the PLCA network. The default value of bits 3.2289.15:8 is 8" with "define the highest node ID getting a transmit opportunity before a new BEACON is generated. The default value of bits 3.2289.15:8 is 7"

In Table 45–220c replace "8 bit field indicating the max number of nodes on the PLCA network" with "8 bit field indicating the highest node ID getting a transmit opportunity"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.3** *P* **32** *L* **11** # 528

Beruto, Piergiorgio Canova Tech Srl

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

[MAX_ID] PLCAMaxID definition is not consistent to its usage in Clause 148

SuggestedRemedy

Replace "The value of aPLCAMaxID is assigned to define the maximum number of nodes that can be handled on the PLCA network" with "The value of aPLCAMaxID is assigned to define the highest node ID getting a transmit opportunity before a new BEACON is generated"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.4** *P* **185** *L* **45** # 529

Beruto, Piergiorgio Canova Tech Srl

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

[MAX_ID] MAX_ID is not consistent to its intended usage.

SuggestedRemedy

Replace "TO_TIMER * MAX_ID" with "TO_TIMER * (MAX_ID + 1)"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **186** *L* **26** # 530

Beruto, Piergiorgio Canova Tech Srl

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

[MAX_ID] MAX_ID is not consistent to its intended usage.

SuggestedRemedy

Replace "TO_TIMER * MAX_ID" with "TO_TIMER * (MAX_ID + 1)"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.5.4.4** *P* **192** *L* **50** # 531

Beruto, Piergiorgio Canova Tech Srl

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

[MAX_ID] MAX_ID is not consistent to its intended usage.

SuggestedRemedy

Replace "TO_TIMER * MAX_ID" with "TO_TIMER * (MAX_ID + 1)"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.2** *P* **184** *L* **52** # 532

Beruto, Piergiorgio Canova Tech Srl

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

[MAX_ID] MAX_ID description is not consistent to its usage in Clause 148

SuggestedRemedy

Replace "Indicates the maximum number of PHYs that can join the multidrop network" with "Indicates the maximum node ID getting a transmit opportunity before the node with local_nodeID = 0 generates a new BEACON"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.2** *P* **154** *L* **52** # 533

Beruto, Piergiorgio Canova Tech Srl

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

MDIO is optional, duplex_mode shall be configured anyway.

SuggestedRemedy

Add the following after "Table 22-7.": "If MDIO is not implemented, duplex_mode should be set by the means of equivalent interface. Otherwise, duplex_mode can be set by the means of auto-negotiation"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2** *P* **152** *L* **42** # 534

Beruto, Piergiorgio — Canova Tech Srl

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

[MASTER] [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

In figure 147-4, add the following action into SSD2 state box: "restart XMIT_MAX_TIMER"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2** *P* **153** *L* **13** # 535

Beruto, Piergiorgio — Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

In figure 147-5, in transition from "DATA" to "ESD" state replace "STD * pcs_txen = FALSE" condition with "STD * (pcs_txen = FALSE + XMIT_MAX_TIMER done)"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2** *P* **153** *L* **14** # 536

Beruto, Piergiorgio — Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

In figure 147-5, in recirculating arc of DATA state replace "STD * pcs_txen = TRUE" condition with "STD * pcs_txen = TRUE * XMIT_MAX_TIMER not done"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2** *P* **153** *L* **21** # 537

Beruto, Piergiorgio — Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

In figure 147-5, in transition from "ESD" to "BAD_ESD" state replace "STD *err = TRUE" condition with "STD * (err = TRUE + XMIT_MAX_TIMER done)"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2** *P* **153** *L* **25** # 538

Beruto, Piergiorgio — Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

In figure 147-5, in state BAD_ESD replace "tx_sym <= ESDERR" statement with
"if err = TRUE
<tab> tx_sym <= ESDERR
else
<tab>tx_sym <= ESDJAB"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2** *P* **153** *L* **31** # 539

Beruto, Piergiorgio — Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Add new state "UNJAB_WAIT" with the following content "tx_sym <= SILENCE
restart UNJAB_TIMER"

Add transition from "BAD_ESD" to "UNJAB_WAIT" state with the following condition: "STD * XMIT_MAX_TIMER_DONE"

Add transition from "UNJAB_WAIT" to "B" state with the following optional condition: "(optional) STD * pcs_txen = FALSE * UNJAB_TIMER_DONE"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.3** *P* **151** *L* **39** # 540

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Append line to table 147-1
NAME: S
4B: N/A
5B: 11001
Special Function: ESDJAB

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* **150** *L* **41** # 541

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Add description for ESDJAB:
5B symbol defined as 'S' in 4B/5B encoding

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.1** *P* **149** *L* **19** # 542

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Replace "ESDERR" with "ESDERR / ESDJAB"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **36** # 543

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Replace "ESDOK or ESDERR" with "ESDOK, ESDERR or ESDJAB"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **40** # 544

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Replace "ESDOK" with "ESDOK, ESDJAB"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.6** *P* **154** *L* **14** # 545

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Add new subclause 147.3.2.6 Timers:
XMIT_MAX_TIMER
<tab> Defines the maximum time the PCS Transmit state machine can stay in DATA state. The XMIT_MAX_TIMER shall be implemented in such a way that, upon expiration, an even number of nibbles has been sent to prevent the MAC from counting false alignment errors. Duration: 2ms ± 100 µs

UNJAB_TIMER
<tab>
Optionally times the minimum duration the PHY suppresses any transmission before reverting to normal operations. Duration: 16ms ± 100 µs

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.7** *P* **154** *L* **15** # 546

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Add new subclause 147.3.2.7 Jabber Functional Requirements:
The PCS Transmit function shall contain the capability to interrupt a transmission that exceeds a time duration determined by XMIT_MAX_TIMER. If the packet being transmitted continues longer than the specified time duration, the PCS Transmit shall send an ESD, ESDJAB symbol sequence to notify the receivers, then it shall inhibit further transmissions for at least the duration of UNJAB_TIMER. The PCS Transmit may return to normal operation automatically after UNJAB_TIMER elapsed and the error condition has been cleared, or it can keep silent until reset.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.6** *P* **157** *L* **54** # 547

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Add new subclause 147.3.3.6 Jabber diagnostics:
The ESDJAB symbol informs the PCS Receiver that a frame was terminated by the jabber function. The number of received ESDJAB events can be reported to the management entity be the means of MDIO register 3.2293 or similar functionality if MDIO is not implemented.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3** *P* **44** *L* **22** # 548

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

In table 45-176:
- remove register 3.2293 from Reserved bucket
- add register 3.2293 as a separate entry
Register Address: 3.2293
Register Name: 10BASE-T1S PCS Diagnostic 1
Subclause: 45.2.3.58g

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58g** *P* **49** *L* **39** # 549

Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Add subclause 45.2.3.58g 10BASE-T1S PCS Diagnostic 1
- Add table 45-220g-10BASE-T1S PCS Diagnostic 1 register bit definitions
Bit(s): 3.2293.15:0
Name: RemJabCnt
Description: 16 bit field counting the number of remote jabber errors received since last read of this register.
R/W: RO - SC
- Add subclause 45.2.3.58g.1 RemJabCnt (3.2293.15:0)
Reports the number of received jabber events occurred since last time register 3.2293 was read

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **183** *L* **20** # 550

Beruto, Piergiorgio — Canova Tech Srl

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

[MASTER][PLCA_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

SuggestedRemedy

In figure 148-5 Add transition from "YIELD" to "RECEIVE" state with condition "plca_eri = TRUE * !TO_TIMER done". Suggestion for editor: move YIELD state to the left to avoid crossings.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **183** *L* **20** # 551

Beruto, Piergiorgio — Canova Tech Srl

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

[PLCA_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

SuggestedRemedy

In figure 148-5 Add transition from "COMMIT" to "NEXT_TX_OPPORTUNITY" state with condition "TX_EN = FALSE * packetPending = FALSE".
Add "committed <= FALSE" action in "NEXT_TX_OPPORTUNITY" state box

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **188** *L* **22** # 552

Beruto, Piergiorgio — Canova Tech Srl

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

[PLCA_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

SuggestedRemedy

In figure 148-7 Add transition from "WAIT_MAC" to "C" off-page connector with condition "plca_txen = FALSE * COMMIT_TIMER done".
Add "restart COMMIT_TIMER" action in "WAIT_MAC" state box

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.4** *P* **189** *L* **45** # 553

Beruto, Piergiorgio — Canova Tech Srl

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

[PLCA_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

SuggestedRemedy

Add description of COMMIT_TIMER:
Defines the maximum time the PLCA Data state machine is allowed to stay in WAIT_MAC state. Duration: 192 bit times

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3** *P* **44** *L* **22** # 554

Beruto, Piergiorgio — Canova Tech Srl

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

[PLCA_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

SuggestedRemedy

In table 45-176:
- remove register 3.2294 from Reserved bucket
- add register 3.2294 as a separate entry
Register Address: 3.2294
Register Name: 10BASE-T1S PCS Diagnostic 2
Subclause: 45.2.3.58h

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.58h** *P* **49** *L* **39** # 555

Beruto, Piergiorgio — Canova Tech Srl

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

[PLCA_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

SuggestedRemedy

Add subclause 45.2.3.58h 10BASE-T1S PCS Diagnostic 2
- Add table 45-220h-10BASE-T1S PCS Diagnostic 2 register bit definitions
Bit(s): 3.2294.15:0
Name: PhysicalColCnt
Description: 16 bit field counting the number of physical collisions occurred since last read of this register.
R/W: RO - SC
- Add subclause 45.2.3.58h.1 PhysicalColCnt (3.2293.15:0)
Reports the number of physical collisions (i.e. excluding the ones triggered by the optional PLCA RS) occurred since last time register 3.2294 was read

Proposed Response *Response Status* **O**

Cl **148** *SC* **148** *P* *L* # 556

Beruto, Piergiorgio — Canova Tech Srl

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

PLCA is missing a way to report whether the BEACON is currently being received or transmitted

SuggestedRemedy

Add modifications as in attached beruto_3cg_PLCA_status.pdf slides 3 to 8

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **183** *L* **11** # 557

Beruto, Piergiorgio — Canova Tech Srl

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

Exit conditions from WAIT_TO state in Figure 148-5 are potentially ambiguous with respect to "rx_cmd = BEACON" expression

SuggestedRemedy

In figure 148-5 append "* rx_cmd ≠ BEACON" condition to the transitions from state WAIT_TO to: COMMIT, YIELD and NEXT_TX_OPPORTUNITY states

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **183** *L* **23** # 558

Beruto, Piergiorgio — Canova Tech Srl

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

Exit conditions from EARLY_RECEIVE state in Figure 148-5 are potentially ambiguous with respect to "RECV_TIMER done" and "plca_crs" expressions

SuggestedRemedy

In figure 148-5 append "* !RECV_TIMER done" condition to the transition from state EARLY_RECEIVE to RECEIVE state. Prepend "plca_crs = FALSE *" to the transitions from EARLY_RECEIVE state to: B and C connectors.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.2** *P* **85** *L* **6** # 559

D'Ambrosia, John — Futurewei, Subsidiary

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

This is the first mention of 1000 m - over a single balanced pair of conductors up to 1000 m in length. There are different insertion losses for the two operating voltage modes, but the 2.4V p-p appears optional (commenter unable to find that specific text - just that it may support 2.4v or not). Autonegotiation is also noted as being optional. Optional insertion losses / operating modes / AN are a recipe for interoperability problems.

SuggestedRemedy

Two potential solutions - 1) Consider spitting the 10BASE-T1L into two PHYs, where an implementation might support either. 2) Make AN mandatory.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **30** # 560

D'Ambrosia, John — Futurewei, Subsidiary

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

Consider adding a table that maps the different functions in the stack to the respective clauses which then notes whether the respective clause is optional or mandatory. This greatly helps the reader.

SuggestedRemedy

Reference Table 116-3 as example

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **86** *L* **146** # 561

D'Ambrosia, John — Futurewei, Subsidiary

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

Consider adding a table that maps the different functions in the stack to the respective clauses which then notes whether the respective clause is optional or mandatory. This greatly helps the reader.

SuggestedRemedy

Reference Table 116-3 as example

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.7.2** *P* **166** *L* **49** # 562

DiBiaso, Eric — TE Connectivity

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

The text ".... using Equation (147-4) at all frequencies from 0.1 MHz to 20 MHz."

The frequency limits do not align with equation 147-4 which is 0.3 MHz to 40 MHz.

SuggestedRemedy

Replace text with the following to align with equation 147-4.

".... using Equation (147-4) at all frequencies from 0.3 MHz to 40 MHz."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.7.3** *P* **167** *L* **20** # 563

DiBiaso, Eric — TE Connectivity

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

Equation (147-5) defines the mode conversion loss in two frequency regions from 0.3 MHz to 20 MHz and from 20 MHz to 200MHz. However the text in line 20 defines

"f is the frequency in MHz; 0.3 <= f <= 40".

SuggestedRemedy

Replace 40 with 200 in line 20. New text should be:

"f is the frequency in MHz; 0.3 <= f <= 200".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.1** *P* **116** *L* **2** # 564

Laubach, Mark — Broadcom

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

"This variable is generated by management or set by default" is unclear to me. The variable is always defined in the standard, so "not generated", "set by management"? If "set by default" what is the default value? Looking at 146.4.5, there is closer wording that might have better clarity.

SuggestedRemedy

Suggest "This variable is set by management control or via hardware."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.1** *P* **116** *L* **5** # 565

Laubach, Mark — Broadcom

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

"set by default", what is the default value?

SuggestedRemedy

Indicate the default value.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3** *P* **96** *L* **10** # 566

Laubach, Mark — Broadcom

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

Both line 10 "config" and line 29 "receiving" the text could be horizontal rather than vertical. To me easier readying. Same for Page 113, Line 7 "config' and line 25 "recovery clock".

SuggestedRemedy

Suggest make both horizontal.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.1** *P* **122** *L* **42** # 567

Laubach, Mark Broadcom

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

"The default setting is". The default setting of what? Which variable(s) are set to default and what are the default values? "if available" not clear is this is refering to Auto-Negotiation or MDIO from context. Save for 146.6.2, Page 126, line 53. If changes made here, also reflect as apprpropriate in PICS 146.11.4.2.2 page 142, line 3.

SuggestedRemedy

Suggest making the context clear.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.1** *P* **122** *L* **32** # 568

Laubach, Mark Broadcom

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

Clause 45.2.1.174a.4 is titled "Transmit voltage amplitude". This clause is titled "Transmitter output voltage" (used else in this clause). Second paragraph also uses "transmitter driving level" (used only once here with no definition). Are these all the same? Why three? Please pick one and/or provide sufficiently details definitions for each. Note: "Transmit voltage amplitude" on appears in this project. "Transmitter output voltage" is used in other clauses (projects) and may be an appropriate choice.

SuggestedRemedy

Pick one.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* **150** *L* **21** # 569

Laubach, Mark Broadcom

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

What is the default value? (or is the intent "set by hardware"?)

SuggestedRemedy

Indicate the default value or fix the text.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **180** *L* **11** # 570

Laubach, Mark Broadcom

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

"PLCA control variables". Where are these? Suggest xref'ing to the appropriate subclause, e.g. 148.4.5.2. The more signficant problem is that there is I can't find the term "default" and/or "default value" for any variable in 148.4.5.2. Please indicate in 148.4.5.2 what the default value is for each variable or consider providing a table somewhere appropriate with specific variables and their corresponding appropriate default value to make this statement correct.

SuggestedRemedy

Add the appropriate default value for each variable in 148.4.5.2 as referred to by the paragraph at line 11.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.1** *P* **168** *L* **28** # 571

Shariff, Masood Commscope

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

Clarify and complete the MDI connector specification. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification

SuggestedRemedy

Add at the end of line 28: "For M1I1C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-xx. For M2I2C2E2/M3I3C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-yy."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.8.1** *P* **133** *L* **9** # 572

Shariff, Masood — Commscope

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

Clarify and complete the MDI connector specification. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification

SuggestedRemedy

Add at the end of line 9: For M1I1C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-xx. For M2I2C2E2/M3I3C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-yy."

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2** *P* **25** *L* **37** # 573

Gauthier, Claude — NXP (claude.gauthier

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

Add optional support for Priority indication when using the PLCA (multi-drop) option. The communication of Priority is all that is needed in the PHY. The Priority value of the current frames come from & goes to IEEE 802.1 where the policy decision of what frames are allowed to be released to the MAC for transmition after each BEACON is decided.

SuggestedRemedy

A presentation documenting the needs, mechanisms & costs will be available before and at the September meeting. Specific details on what codings to use & specifc text changes will follow. In summary the needed changes are: 1) add a new PRIORITY encoding to Tables 22-1 & 22-2 (the MII interface - p25 & p26). A single encoding is all that is needed as the Priority value indication can follow the PRIORITY code. 2) Add PRIORITY 4B/5B encoding to Table 147-1 (p151) or some other mechanism. 3) Update figure 148-3 (p176) to add connections to a "Priority Client" as was done for Energy Efficient Ethernet's Fig 78-1 (p33 of part 6 of 802.3-2015). And 4) Update Fig 148-4 (p181) PLCA Control state diagram and associated text to add in the optional Priority communication phase at the start of each BEACON. The goal here is to reuse as much as possible to minimize gate costs. A register bit will be needed to enable this optional feature, a few PICS added, etc.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.3** *P* **119** *L* **1** # 574

Fitzgerald, Niall — Acuitas Silicon

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

Figure 15-15 PHY Control state diagram (part b) describes LPI sequencing, where an asymmetric LPI scheme has been adopted.
I have some concerns here:
- There is no Refresh Monitor function defined, which would define timeout/fail-safe behavior should the PHY observe non-compliant LPI sequencing from the link partner, i.e. the link partner has missed a number of refreshes.
- A scenario could arise where the SLAVE transmits data frames when the MASTER is in QUIET. It might be that more requirements should be placed on MASTER transmit clock behavior during LPI mode.
- Refresh-quiet cycling will be asynchronous between the PHYs.
- Power saving in the PHY might be limited by the high refresh/quiet ratio.

A symmetric LPI approach, similar to that of 1000BASE-T EEE, might have been considered. This would address some of the issues here.

I can provide a more detailed document describing the potential issues here if needed.

SuggestedRemedy

Consider adopting a symmetric LPI approach for 10BASE-T1L EEE.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.5** *P* **120** *L* **1** # 575

Fitzgerald, Niall — Acuitas Silicon

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

The Link Monitor function generates link_status primarily from the tx_mode signal generated by PHY Control. When in the LINK UP state, the transition back to LINK DOWN will occur if the condition tx_mode = SEND_Z occurs.

This makes no account for the QUIET state of Figure 146-15 – PHY Control state diagram (part b), where the assignment tx_mode = SEND_Z occurs. The QUIET state is part of normal LPI mode sequencing, and entry to this state does not constitute a link down event.

SuggestedRemedy

The PHY Control function could be modified to generate a new signal, perhaps called link_up, as follows:
link_up <= FALSE in DISABLE TRANSMITTER
link_up <= TRUE in SEND IDLE OR DATA

The Link Monitor state diagram would then be modified as follows:
Use link_up=TRUE as the condition to transition from LINK_DOWN to LINK UP.
Use link_up=FALSE as the condition to transition from LINK UP to LINK DOWN.

An alternative option would be to generate link_status directly from PHY Control, and remove the Link Monitor entirely.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1.1** *P* **110** *L* **6** # 576

Fitzgerald, Niall — Acuitas Silicon

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

The RXD[3:0] signal is not described as being the corresponding signal of the MII, i.e. of Clause 22.2.2.8. This is in contrast to the preceding descriptions of RX_ER and RX_DV. This implies that RXD here is not the same as RXD of the MII, which I understand is not the case.

SuggestedRemedy

Change the desription of RXD[3:0] to be:
The RXD signal of the MII as specified in 22.2.2.8.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1** *P* **107** *L* **1** # 577

Fitzgerald, Niall — Acuitas Silicon

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

States in the PCS receive state diagram (Figure 146-8 and Figure 146-9) make assignments to Srn[3:0], rather than to RXD[3:0].

Clause 146.3.4.1.1 describes Srn[3:0] as:
Output from 4B3T decoder to descrambler.

So Srn[3:0] is scrambled data. Assignments to Srn[3:0] in many cases will not give the desired/required results.

For example, in the LOW POWER IDLE state, the MII receive signals should be RX_DV = 0, RX_ER = 1, RXD[3:0] = 0001 (to show 'Assert LPI' of Table 22-2).
Setting Srn[3:0] to 0001 does not appear to achieve this, as this is the input to the descrambler, and not the output of the descrambler (or RXD[3:0] directly).

SuggestedRemedy

Replace assignments to Srn[3:0] in the PCS receive state diagram of Figure 146-8 and Figure 146-9 with equivalent assignments to RXD[3:0].

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3** *P* **96** *L* **6** # 578

Fitzgerald, Niall — Acuitas Silicon

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

Figure 146-3 – PCS reference diagram shows rx_lpi_active as an input to the PCS RECEIVE module, coming from the PMA SERVICE INTERFACE.

The actual direction is the reverse; rx_lpi_active is an output from the PCS receive state diagram and is used in the PMA.

SuggestedRemedy

Reverse the direction of the rx_lpi_active signal in Figure 146-3 – PCS reference diagram.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3** *P* **96** *L* **6** # 579

Fitzgerald, Niall — Acuitas Silicon

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

Figure 146-3 – PCS reference diagram shows tx_lpi_active as an output from the PCS TRANSMIT module, which has inputs of TXD<3:0>, tx_error_mii, and tx_enable_mii.

The tx_error_mii and tx_enable_mii signals are outputs from the PCS DATA TRANSMISSION ENABLE module, which is described in Figure 146-4 – PCS data transmission enabling state diagram. This will be in the DISABLE DATA TRANSMISSION state if tx_mode is SEND_I or SEND_Z (but not SEND_N), with tx_error_mii and tx_enable_mii both being assigned FALSE.

The condition to set tx_lpi_active to TRUE looks like it should not happen when tx_mode = SEND_Z or SEND_I, as the 'Assert LPI' condition would have tx_enable_mii = FALSE and tx_error_mii = TRUE.

The description of tx_lpi_active of 146.2.11 relates the value of this signal back more directly to the MII signals, which I think is correct. But Figure 146-3 seems to contradict this, and it should not.

SuggestedRemedy

Other PHY standards are less contradictory, e.g. 1000BASE-T states explicitly how its loc_lpi_req signal is generated from the MII signals in Clause 40.3.1.6 PCS Local LPI Request function. Something equivalent to this should be added to Clause 146 for 10BASE-T1L.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3** *P* **96** *L* **6** # 580

Fitzgerald, Niall — Acuitas Silicon

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

Figure 146-3 – PCS reference diagram omits the loc_lpi_req signal from the PMA.

I understand that this is used by the PCS TRANSMIT function, as shown later in Figure 146–6—PCS transmit symbol generation.

SuggestedRemedy

Add loc_lpi_req to Figure 146–3—PCS reference diagram.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4** *P* **113** *L* **3** # 581

Fitzgerald, Niall — Acuitas Silicon

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

Figure 146–11—PMA functional block diagram shows rx_lpi_active twice, i.e. as two separate inputs, one for PHY CONTROL and one for PMA RECEIVE.

This conflicts with convention, used for other signals in the diagram, e.g. scr_status is shown as a single input going to two separate places.

SuggestedRemedy

Change Figure 146–11—PMA functional block diagram to show rx_lpi_active as a single input that goes to PHY CONTROL and PMA RECEIVE.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.3** *P* **119** *L* **1** # 582

Fitzgerald, Niall — Acuitas Silicon

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

Figure 146–15—PHY Control state diagram (part b) shows the SEND SLEEP state. The only exit condition is lpi_sleep_timer_done (which happens after 205 us).

Consider what happens when the MII shows 'Assert LPI' for a very short time (e.g. 1 us). PHY Control will have to wait 205 us in SEND SLEEP, before proceeding to QUIET where it will proceed immediately to SEND WAKE, as tx_lpi_active = FALSE, and it has to wait for lpi_wake_timer_done (a further 205 us). This means an aggregate time of 410 us until PHY Control returns to SEND IDLE OR DATA, where it sets tx_mode = SEND_N to allow frame transmission. So 410 us is the effective wake time in this scenario.

SuggestedRemedy

Consider modifying the PHY Control state diagram (Figure 146-14 and 146-15) to add an additional transition from SEND SLEEP back to SEND IDLE OR DATA on condition tx_lpi_active = FALSE.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4** *P* **115** *L* **39** # 583

Fitzgerald, Niall — Acuitas Silicon

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

Clause 146.4.4 describes the PHY Control function, and makes mention of a fast startup mode, as follows:

"There shall be two startup sequences, depending on which training time is needed during the startup. If there is no predetermined configuration available, the maximum time, until link_status = OK is reached, shall be less than 3000 ± 30 ms. If there is a predetermined configuration available (a set of valid filter coefficients is available), the maximum time from power_on = FALSE to link_status = OK shall be less than 100 ms."

The fast startup mode mentioned here is not defined subsequently in the definition of the training_timer in Clause 146.4.4.2, or in the definition of the PHY Control state diagram of Figure 146-15 and Figure 146-16.
It does seem that a fast startup mode would have to apply in both PHYs. The MASTER PHY still has to wait for the SLAVE to start transmitting before it can startup its own training, and a fast link startup in the MASTER would likely fail if the SLAVE were not also operating a fast startup mode.
In addition, the fast startup appears to relate to a power_on signal not defined elsewhere in Clause 146 (I understand that it is defined in Clause 98.5.1).

SuggestedRemedy

Remove mention of the fast startup mode from the description of the PHY Control function in Clause 146.4.4, i.e. lines 39 - 46 on page 115.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.4.4.3** *P* **118** *L* **14** # 584

Fitzgerald, Niall — Acuitas Silicon

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

In the PHY Control state diagram (Figure 146-14), the training_timer_done provokes a transition back to DISABLE TRANSMITTER, and an implied full restart of PHY receiver training for link startup.

It is unclear why such behaviour should be mandated in the standard.

When auto-negotiation is enabled, the link_fail_inhibit_timer provides fail-safe timeout functionality.
When auto-negotiation is disabled, i.e. for the FORCE mode mentioned in Clause 146.4.4, there would be no similar external timeout. But neither would the PHY Control functions be synchronized in a manner similar to when auto-negotiation is enabled. The starting times of the training_timer for the PHYs would depend on when they emerged from power down; one could start 1500 ms after the other, and the PHYs would not have the ~3000 ms (in common) for successful link startup.

I can provide a more detailed document describing the potential issues here if needed.

SuggestedRemedy

Consider removing the training_timer, and associated transitions back to DISABLE TRANSMITTER on the condition training_timer_done.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104.7** *P* **78** *L* **1** # 585

Stewart, Heath — Analog Devices

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

Resistance measurements, as proposed in Pittsburgh, are enabling for long cable reach applications. Resistance measurements allow power recovery for sub-maximum cable lengths in an interoperable manner.

SuggestedRemedy

See stewart_0918_01.pdf

Proposed Response *Response Status* **O**

Cl **00** *SC* **FM** *P* **3** *L* **3** # 586

Healey, Adam Broadcom Inc.

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

The abstract is inconsistent with the title of the amendment. This inconsistency is also present on the title page (page 1, line 34) and on page 23, line 13.

SuggestedRemedy

Change "…on single balanced pair copper cabling." to "over a single balanced pair of conductors." Correct similar inconsistencies throughout the draft.

Proposed Response *Response Status* **O**

Cl **00** *SC* **FM** *P* **3** *L* **3** # 587

Healey, Adam Broadcom Inc.

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

It seems worthy to highlight that "Physical Layer Collision Avoidance (PLCA)" is defined in this amendment.

SuggestedRemedy

Consider adding "Physical Layer Collision Avoidance" and/or "PLCA" to the list of keywords.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.3** *P* **24** *L* **3** # 588

Healey, Adam Broadcom Inc.

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

This amendment appears to add no new normative references.

SuggestedRemedy

Remove 1.3, or list the normative references added by this amendment.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.1** *P* **173** *L* **5** # 589

Healey, Adam Broadcom Inc.

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

The first sentence defines the expansion of "PLCA" to be "PHY Level Collision Avoidance". Elsewhere, it is expanded to "Physical Layer Collision Avoidance". I believe the latter is intended.

SuggestedRemedy

The first use of "PLCA" is this clause is in the Clause 148 heading and should be expanded there to be "Physical Layer Collision Avoidance". Update the first sentence of 148.1 to be consistent.

Proposed Response *Response Status* **O**

Cl **00** *SC* **A** *P* **195** *L* **12** # 590

Healey, Adam Broadcom Inc.

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

Bibliography entry "[B22a]" is not cited in the document and it seems unlikely to have the title "Name-Title".

SuggestedRemedy

Remove amendments to Annex A or list any informative references cited in the draft.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.1.1** *P* **31** *L* **28** # 591

Healey, Adam Broadcom Inc.

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

The style of the appropriate syntax definition is inconsistent with the base standard.

SuggestedRemedy

List the enumerations for aPLCAAdminState in the same style as e.g., 30.3.2.1.7 aPhyAdminState. Make similar style changes in 30.3.9.2.2.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.2.1.1.2** *P* **59** *L* **13** # 592

Healey, Adam — Broadcom Inc.

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

"auto negotiation" should be "Auto-Negotiation" in two instances (see http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html).

SuggestedRemedy

Change per comment.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.1.1** *P* **31** *L* **33** # 593

Healey, Adam — Broadcom Inc.

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

"Clause 22" and "Clause 148" should be active cross-references.

SuggestedRemedy

This issue seems to exist for most, if not all, definitions of PLCA attributes. Make references to clauses contained in the amendment into active cross-references. Highlight references to clauses outside of the amendment in the "external cross-reference" style.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.1** *P* **31** *L* **50** # 594

Healey, Adam — Broadcom Inc.

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

"BEHAVIOUR DEFINED AS:" highlights that this attribute maps to Clause 45 register bits. Active cross-references to 45.2.3.58f.1 and 45.2.3.58e.3 would be very useful (and similar cross-references are included for a number of management attributes). Mappings for other attributes such as aPLCAMaxID, aPLCALocalNodeID, and aPLCATransmitOpportunityTimer appear to go unmentioned. Conversely, there is no management attribute for PLCA reset (3.2291.12).

SuggestedRemedy

For each PLCA management attribute that maps to a clause 45 register/bit, state the mapping and provide an active cross-reference to the appropriate subclause in Clause 45. Consider adding an aPLCAReset attribute.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.9.2.1** *P* **31** *L* **49** # 595

Healey, Adam — Broadcom Inc.

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

It seems that "… Clause 147 PLCA …" should be "… Clause 148 PLCA …" since it is Clause 148 that defines PLCA.

SuggestedRemedy

Change the reference and make it into an active cross-reference.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.390a** *P* **24** *L* **23** # 596

Lapak, Jeffrey — UNH-IOL

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

Definition of PLCA is unclear, suggest improving text to add clarity.

SuggestedRemedy

Change sentence from
"A method for creating transmit opportunities at proper times in order to avoid physical collisions on the medium and improve performance of half-duplex 10BASE-T1S multidrop networks on mixing segments"

to "A method for generating round-robin transmit opportunties for 10BASE-T1S multidrop PHYs operating on mixing segments in order to avoid physical collisions on the medium and improve performance"

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6** *P* **68** *L* **5** # 597

Lapak, Jeffrey UNH-IOL

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

There appears to be an error in the State Diagram "Figure 98-11 - Auto-Negotiation - high speed mode and low speed mode selection"

The intent of this diagram appears to be a method for switching between high speed and low speed mode detection based on the "failure_timer", however there is no tranisition from the "LOW SPEED AN" state back to the "SPEED DETECTION" state to enable this functionality. This appears to be an error in the diagram generation as the "AN COMPLETE" state has two exit conditions on the onlu transition (both an_link_good = false and failure_timer expired.

SuggestedRemedy

Add a transition arrow from "LOW SPEED AN" state back to the "SPEED DETECTION" with the exit condition "failure_timer expired" and remove the extra exit condition from the exit to "AN COMPLETE".

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.1** *P* **173** *L* **1** # 598

Lapak, Jeffrey UNH-IOL

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

The proposed PLCA protocol is not interoperable as does not have a method for the automatic assignment of "local_nodeID". As proposed this value must be set via MDIO for each device in a network, leading to an engineered system.

This is an unoptimized solution that requires no frames to be passed, the intent is to start discussion. This idea is unoptimized in that it creates a potentially unused transmission opportunity each round for new devices to enter the network. This creates an (1 / (n+1) percent reduction in potential capacity where n = the current number of nodes in the network

SuggestedRemedy

Default local_nodeID to "1" and MAX_ID to "1"

Add an additional timer, states, and variables such that if no BEACON is received by that timer expiration, the station assumes the local_nodeID of "0" and MAX_ID = "1".

Allow all devices which have local_nodeID = "1" to transmit during curID = 1. Due to CSMA/CD it does not guarentee transmission, but if no collision is detected all devices with local_nodeID != 0 increment their local_node_ID and MAX_ID and the device which transmitted without a collision takes on local_nodeID=2 and MAX_ID=2.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.1** *P* **173** *L* **10** # 599

KIM, YONG NIO

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

says "MII… are compatible with the gRS… ". The statement may become true if all approporate changes to CL22 are made to ensure this statement to be true. CL22 conveys PLS signals to MII. CL148 performs medium access control. So they are not compatible prior to changes.. Also not clear is what is being conveyed as "compatible".

SuggestedRemedy

Delete the sentence, and any other occurance of similar statement. If this statement is kept (against this comment), clarify what is meant to be "compatible"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.1** *P* **178** *L* **34** # 600
KIM, YONG NIO

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

22.2.2.4 is green -- shouild be xref (editorial). BEACON request referenced modified in 22.2.2.4 text. This prompted me to question how best plca should be specified wrt CL22. Ideally,all PLCA related functions should be in CL148, and limit changes to CL22 to only that the necessary minimum, such that old RS reference is CL22 ("PLCA function disabled"), and PLCA RS is CL148. Changes to CL22 and CL148 are not made in such clear partition.

SuggestedRemedy

Move all CL148 related changes in CL22 into CL148, or provide convincing rationale why PLCA functions are distribtued between the two clauses.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.1.** *P* **178** *L* **34** # 601
KIM, YONG NIO

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

MII == Media Independent Interface.

SuggestedRemedy

Replace all "MII interface" with "MII" (preferred) or "MI Interface" (not preferred)

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.2** *P* **178** *L* **51** # 602
KIM, YONG NIO

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

"thus request, the PHY shall asset the CRS..." has two problems. What PHY is "the PHY", and how does PHY assert CRS in accordance to CL148 state diagram

SuggestedRemedy

Please fix it. If fixable.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.1.2** *P* **178** *L* **51** # 603
KIM, YONG NIO

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

"A Commit request shall not.. PHY… RX_DV.." has two problems. What PHY is "the PHY", and how does the PHY know not to assert RX_DV signal in accordance to CL148 state diagram.

SuggestedRemedy

Please fix it. If fixable.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.1** *P* **181** *L* **50** # 604
KIM, YONG NIO

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

PLCA Control state diagram (Fig 148-5) and related text seems to describe Token bus-like medium access control funciton (without details on how the token (BEACON) is initialized, how duplilcate tokens are handled (duplicate nodeID=0), how lost token (null nodeID=0) is handled). This is NOT appropriate function for RS (CL22) layer that conveys (translates) signals between PLS and MII

SuggestedRemedy

Move CL148 function so CL4 MAC Clause where it belongs. Make approporate changes to CRD and objectives list, if deemed needed.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **187** *L* **54** # 605

KIM, YONG NIO

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

PLCA Data state diagram (Fig 148-6) introduces a new behavior WRT media loopback when transmitting. Prior to CL148, CL4 half-duplex MAC reflects all TX packets back to RX (reflected by the half-duplex medium). CL4 full-duplex MAC does not reflect any TX back to RX. There is recognized inconsistancy in 802.1 MAC Services defintion (e.g. thought experiment -- how does broadcast frame transmitted by a bridge to a half-duplex medium behave as per std, and how does a system actually behave)? This statemachine introduces a new behavior for the half-duplex MAC, where the TX is not reflected back to RX. An EXISTING system that is not aware of 802.3cg behavior would IGNORE (with half-duplex MAC) RX when it is also TX, when in fact RX is independant transmission that must be received (otherwise packet was transmited to the network and lost silently by being ignored (reflected).

SuggestedRemedy

While the 802.1 MAC services issues has nothing to do with 802.3cg scope, the 802 and 802.3 compatibility is IN scope, because by introducing a different behavior. Existing systems (MACs and Bridges) would potentially not process any RX that is coincidental with its own TX. Please fix it, if fixible. 8802.1 MAC Services maintanance change may be required be reviewed together with this issue.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **23** *L* **10** # 606

Bains, Amrik Cisco

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

"Single Balanced Twisted-pair Cabling"

SuggestedRemedy

"Single Balanced pair of Conductors"

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **24** *L* **18** # 607

Bains, Amrik Cisco

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

"single balanced twisted-pair cabling"

SuggestedRemedy

"singlebalanced pair of conductors"

Proposed Response *Response Status* **O**

Cl **22** *SC* **22** *P* **27** *L* **1** # 608

Bains, Amrik Cisco

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

22.3 section is wrong

SuggestedRemedy

22.8

Proposed Response *Response Status* **O**

Cl **22** *SC* **22** *P* **28** *L* **4** # 609

Bains, Amrik Cisco

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

Empty tables

SuggestedRemedy

Add information to tables

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.17** *P* **37** *L* **27** # 610

Bains, Amrik Cisco

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

Low-power - not clear what this means, requires more details as to what is active on the PHY. It seems only management interface is active while tx/rx PHY sections are powered down

SuggestedRemedy

Change title to "Hibernation Mode". In this mode only management interface is active

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.4** *P* **164** *L* **19** # 611

Baggett, Tim Microchip

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

Additional parameters need to be specified for measuring the TX PSD in Test Mode 3 for measuring against the PSD mask in Figure 147-15.

SuggestedRemedy

- Add similar text as found in T1L Section 146.5.4.4, lines 14-16, page 123:

"The measurements need to be calibrated for the insertion loss of the differential Balun used in the test. The resolution bandwidth of 10 kHz and sweep time of larger than 1 second are considered in the PSD measurement."

- Verify that the selected resolution bandwidth matches the PSD limits specified in 146.5.4.4

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4** *P* **162** *L* **46** # 612

Baggett, Tim Microchip

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

T1S defines two types of segments: point-to-point and a multi-drop mixing segment. Different tests were defined in beruto_3cg_02a_117.pdf for each segment type. The test fixtures in Clause 147 currently specify a 100 Ohm load resistance as would be seen by a point-to-point transmitter. However, due to the two 100 Ohm edge termination resistances in a mixing segment, a multi-drop transmitter will see the 50 Ohm parallel combination.

SuggestedRemedy

* Page 162, Section 147.5.4, Line 46: Replace sentence:
"Where a load is not specified, the transmitter shall meet the requirements of this section with a 100 Ohm ± 0.1 % resistive differential load connected to the transmitter output."

With:
"Where a load is not specified, the transmitter shall meet the requirements of this section with a resistive differential load connected to the transmitter output. The transmitter differential load is 100 Ohms for point-to-point segments, and 50 Ohms for mixing segments."

* Page 163, Section 147.5.4.1, Figure 147-12: Replace "100 Ohm +- 0.1%" with "Rload +- 0.1%" and add "For point-to-point segments Rload is 100 Ohms and for mixing segments Rload is 50 Ohms." to line 4.

* Page 164, Section 147.5.3, Figure 147-14: Add 100 Ohm load resistor, RL, to output of Transmitter Under Test for mixing segments. For point-to-point segments, the 100 Ohm input impedance of the balun suffices.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.6.1** *P* **187** *L* **33** # 613

Baggett, Tim Microchip

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

When a PLCA-enabled PHY_A transmits the ESD end-of-frame, it will deassert CRS to the MAC. However, if another PLCA-enabled PHY_B transmits a SYNC Commit in the very next TO, PHY_A will reassert CRS. The result is that PHY_A will deassert CRS for less than the InterPacketGap1 period of 64 bits. If the PHY_A MAC has more frames to transmit, it will not attempt transmission because the short InterPacketGap. This may cause the PHY_A MAC to possibly miss its next TO.

SuggestedRemedy

The PHY must not deassert CRS for less than the InterPacketGap1 period of 64 bits. This will allow every PHY MAC the ability to attempt transmission in any TO, receive a COL, and be prepared to transmit once its TO finally arrives. The result is a much more efficient transmission of packets across the PLCA PHYs.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.2** *P* **162** *L* **29** # 614

Baggett, Tim Microchip

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

Use the PCS data scrambler rather than PRBS7 in the generation of the pseudo-random sequence of Test Mode 3, Transmitter Distortion Test and PSD Mask. This removes a small bit of extra logic that would be required in implementing the PRBS7 in favor of the PCS data scrambler already in the design. Additionally, the PCS data scrambler has a much longer cycle time than the PRBS7 resulting in better output spectrum.

SuggestedRemedy

- Change "PRBS7 with the generating polynomial of" to "the scrambler defined in 147.3.2.5 and"

- Add the following new sentence to the end of this paragraph: "The input to the scrambler shall be a constant stream of zeroes."
Note: link to 147.3.2.5

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.2** *P* **162** *L* **29** # 615

Baggett, Tim Microchip

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

Inserting the 4B5B encoder between the pseudo-random sequence generator and DME encoder in Test Mode 3 will result in a transmitter PSD very close to what will be observed in normal transmit function except that it will not be packetized.

SuggestedRemedy

- Insert "encode groups of four bits from 4B to 5B symbols as in 147.3.2.3, then " before "encoded using Differential Manchester Encoding"

- If 4B/5B mapping is not be applied to this test mode for any reason, then we shall shall need to specify at what rate should the pseudo-random bit sequence is generated at prior to Differential Manchester Encoding so as to properly match the transmit PSD mask in 147.5.4.4.

Proposed Response *Response Status* **O**

Cl **104** *SC* **104** *P* **73** *L* **1** # 616

Stover, David Analog Devices

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

A set of changes against Draft 1.2 was adopted from stewart_3g_01f_0518.pdf. This change set was not fully adopted.

SuggestedRemedy

Adopt full set of changes outlined in stewart_3g_01f_0518.pdf, slides 7-11, as adopted by motion #8 of motions_3cg_01a_0518.pdf.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.8.1** *P* **133** *L* **9** # 617

Kolesar, Paul CommScope

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

The MDI connector specification is incomplete as it does not specify a form, nor does it delineate MICE operating conditions. The user would benefit by specifying both. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification.

SuggestedRemedy

Add at the end of line 9: For M1I1C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-xx. For M2I2C2E2/M3I3C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-yy."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.1** *P* **168** *L* **28** # 618

Kolesar, Paul CommScope

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

The MDI connector specification is incomplete as it does not specify a form, nor does it delineate MICE operating conditions. The user would benefit by specifying both. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification.

SuggestedRemedy

Add at the end of line 28: "For M1I1C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-xx. For M2I2C2E2/M3I3C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-yy."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4** *P* **162** *L* **46** # 619

Brandt, David Rockwell Automation

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

A link segment and mixing segment differ in the impedance seen by the transmitter

SuggestedRemedy

Replace:
Where a load is not specified, the transmitter shall meet the requirements of this section with a 100 Ω ± 0.1 % resistive differential load connected to the transmitter output.

With:
Where a load is not specified and multidrop mode is supported and enabled, the transmitter shall meet the requirements of this section with a 50 Ω ± 0.1 % resistive differential load connected to the transmitter output. Otherwise the transmitter shall meet the requirements of this section with a 100 Ω ± 0.1 % resistive differential load connected to the transmitter output.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.1** *P* **163** *L* **8** # 620

Brandt, David Rockwell Automation

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

Figure does not show different impedances for link segment and mixing segment

SuggestedRemedy

Replace:
100 Ω ± 0.1 %

With:
Transmitter Load

Proposed Response *Response Status* **O**

Cl **147** SC **147.5.4.3** P **164** L **10** # 621
Brandt, David Rockwell Automation

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

Figure does not show different impedances for link segment and mixing segment

SuggestedRemedy

Replace:
100 Ω

With:
50 Ω (multidrop mode) or 100 Ω

Proposed Response *Response Status* **O**

Cl **147** SC **147.5.4.3** P **164** L **4** # 622
Brandt, David Rockwell Automation

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

Test implies only link segment

SuggestedRemedy

Replace:
The maximum jitter at the transmitter side shall be less than ±5 ns symbol-to-symbol jitter.

With:
The maximum jitter at the transmitter side shall be less than ±5 ns symbol-to-symbol jitter, including when multidrop mode is supported and enabled.

Proposed Response *Response Status* **O**

Cl **147** SC **147.5.4.6** P **165** L **36** # 623
Brandt, David Rockwell Automation

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

Test setup is not specific enough for repeatability

SuggestedRemedy

Replace:
Link Segment

With:
25 m Link Segment

Proposed Response *Response Status* **O**

Cl **147** SC **147.5.4.6** P **165** L **48** # 624
Brandt, David Rockwell Automation

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

Topic is changed without new section header

SuggestedRemedy

Insert header and renumber:
147.5.4.7 PMA local loopback mode

Proposed Response *Response Status* **O**

Cl **147** SC **147.5.4.7** P **166** L **14** # 625
Brandt, David Rockwell Automation

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

Transmitter impedance is specified elsewhere

SuggestedRemedy

Replace:
In test mode 4, a transmitter supporting the multidrop mode presents a minimum of 10 kΩ impedance to the
line from DC to 25 MHz.

With:
In test mode 4, a transmitter with multidrop mode supported and enabled shall present the minimum parallel impedance across the MDI attachment points as specified in 147.9.2 MDI electrical specification.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8** *P* **167** *L* **33** # 626

Brandt, David — Rockwell Automation

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

Edge termination values are not specified

SuggestedRemedy

Replace (2 times):
Edge termination

With:
Edge termination
100 Ω

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8.1** *P* **168** *L* **4** # 627

Brandt, David — Rockwell Automation

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

The stated combination of the link segment equation and the MDI load requires alteration of the equation. While this may be beneficial to allow joint optimization of the cable and the MDI circuit, it does not as well separate concerns, such as between harness design and device design. In addition, segment specification is not expected to include the MDI details.

Link segment equation references 100 Ω

SuggestedRemedy

Replace:
The mixing segment shall meet the return loss characteristics specified for link segments in 147.7.2 at any
MDI attachment point and with any combinations of up to at least seven other MDIs presenting minimum
parallel load attached at any combination of permissible MDI attachment points.

With:
The mixing segment shall meet the return loss characteristics specified for link segments in 147.7.2 at any
MDI attachment point. The reference impedance for the return loss specification is 50 Ω.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8.2** *P* **168** *L* **10** # 628

Brandt, David — Rockwell Automation

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

The stated combination of the link segment equation and the MDI load requires alteration of the equation. While this may be beneficial to allow joint optimization of the cable and the MDI circuit, it does not as well separate concerns, such as between harness design and device design. In addition, segment specification is not expected to include the MDI details.

SuggestedRemedy

Replace:
The mixing segment shall meet the insertion loss characteristics specified for link segments in 147.7.1
between any two MDI attachment and at the end of stubs of length up to 10 cm, and with any combinations
of up to at least seven other MDIs presenting minimum parallel load attached at any combination of permissible
MDI attachment points.

With:
The mixing segment shall meet the insertion loss characteristics specified for link segments in 147.7.1
between any two MDI attachment points.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8.3** *P* **168** *L* **17** # 629
Brandt, David Rockwell Automation

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

The stated combination of the link segment equation and the MDI load requires alteration of the equation. While this may be beneficial to allow joint optimization of the cable and the MDI circuit, it does not as well separate concerns, such as between harness design and device design. In addition, segment specification is not expected to include the MDI details.

SuggestedRemedy

Replace:
The mixing segment shall meet the mode conversion loss characteristics specified for link segments in
147.7.3 at any MDI attachment points and with any combinations of up to at least seven other MDIs presenting
minimum parallel load attached at any combination of permissible MDI attachment points.

With:
The mixing segment shall meet the mode conversion loss characteristics specified for link segments in
147.7.3 between any pair of MDI attachment points.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.2** *P* **168** *L* **37** # 630
Brandt, David Rockwell Automation

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

Numerator 1 is too large of a font

SuggestedRemedy

Match fonts in equation

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3** *P* **27** *L* **1** # 631
Walker, Dylan Cisco

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

The PICS in sub-clause 22.3 are empty.

SuggestedRemedy

Populate the PICS entries.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **0** *L* **0** # 632
Thompson, Geoff GraCaSI S.A.

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

Draft does not conform to the model shown in Figure 22-1 in that there is no AUI specified.

SuggestedRemedy

Include the specification of an AUI to the specification in order to make this new PHY a fully-fledged and compatible member of the family of 10 Mb/s interfaces.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **0** *L* **0** # 633
Thompson, Geoff GraCaSI S.A.

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

Draft does not have page numbers that show up on 100% magnification printout on 8.5X11 in paper. I am working from a printout (for cl. 147 at least) so my comments wont include a page number reference.

SuggestedRemedy

Have page numbers included in the draft page format that will show up on copies printed in default mode (i.e. 100%) on 8.5X11 paper.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a.3** *P* **37** *L* **14** # 634
Thompson, Geoff GraCaSI S.A.

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

Clarify that the loopback is a near end loopback and is not dependent on having media connected.

SuggestedRemedy

NEW TEXT: The 10BASE-T1L PMA shall be placed in near-end loopback mode of operation when bit 1.2294.13 is set to a one. When bit 1.2294.13 is set to a one, the 10BASE-T1L PMA shall accept data on the transmit path and return it on the receive path. The default value of bit 1.2294.13 is zero. Bit 1.2294.13 is a copy of 1.0.0 and setting or clearing either bit shall set or clear the other bit. Setting either bit shall enable loopback. Loopback operation shall be independent of media connection or condition.

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174c** *P* **40** *L* **3** # 635
Thompson, Geoff GraCaSI S.A.

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

THE TEXT: “The 3 default values for each bit should be chosen so that the initial state of the device upon power up or reset is a 4 normal operational state without management intervention.” is an editorial note requiring further definition of the draft. It indicates that the draft was not complete and not qualified for WG ballot.

SuggestedRemedy

Complete definition of these default values as well as other incomplete items. This constitutes a lack of completeness of the draft, restart the initial WG Ballot.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* *L* **19** # 636
Thompson, Geoff GraCaSI S.A.

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

Missing article, also since this is the first use of the term DME, the full expansion of it should be moved here from line 49.

SuggestedRemedy

Change text to read: “The Differential Manchester Encoding (DME) based...” and adjust the text in line 49 appropriately.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* *L* **22** # 637
Thompson, Geoff GraCaSI S.A.

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

The inclusion of PLCA in this project is (1) a layer violation and (2) out of scope for a Physical Layer project according to clause 1.1 of the standard. Inclusion of PLCA conflicts with paragraph 3 of the responses to the “Compatibility” criteria of the CSD.

SuggestedRemedy

Remove this paragraph from the draft and related text from this project. If PLCA is desired as an addition to the standards family it should be placed appropriately within the layer structure and have its own CFI.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.1** *P* *L* **26** # 638
Thompson, Geoff GraCaSI S.A.

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

The text and Fig 147-1 do not align to Fig 1-1 of the standard which is intended to comprehensively cover 802.3.

SuggestedRemedy

Remove Fig 147-1 and reference Fig 1-1 or duplicate the 10 Mb/s portion of 1.1 here. Alter the implementation of 10BASE-T1S to align to the 1.1 model.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* *L* **46** # 639
Thompson, Geoff GraCaSI S.A.

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

Non-normative marketing BS that adds nothing to the technical content of the standard.

SuggestedRemedy

Delete this paragraph.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* *L* **46** # 640
Thompson, Geoff GraCaSI S.A.

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

Desktop application are an equally valid application area for this proposed standard

SuggestedRemedy

Add “desktop” to this list of applications in the paragraph you are going to delete.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* *L* **46** # 641
Thompson, Geoff GraCaSI S.A.

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

Out of band signaling is beyond the scope of clause 1.1 and therefore outside the scope of the PAR.

SuggestedRemedy

Remove “Out of Band Signaling” from the draft

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.2** *P* *L* **34** # 642
Thompson, Geoff GraCaSI S.A.

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

The claim is that this PHY uses the MII, the reference to 40.2 is to the GMII

SuggestedRemedy

Change the reference to an MII clause and use the same primitives as existing 10/100 PHYs without alteration.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.1** *P* *L* **3** # 643
Thompson, Geoff GraCaSI S.A.

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

It is not clear from the description whether “PCS Reset” produces a level or a pulse on its output. i.e. does it take a !PCS Reset to complete the reset and release the device for operation.

SuggestedRemedy

Clarify

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.1** *P* *L* **18** # 644
Thompson, Geoff GraCaSI S.A.

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

Text for the character to foolow ESD is unclear.

SuggestedRemedy

Following the deassertion of TX_EN, the PCS Transmit generates a special code ESD. When a transmit error has been encountered the ESD is followed by either ESDOK or ESDERR per the state machine shown in Figure 147-5.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* *L* **44** # 645
Thompson, Geoff GraCaSI S.A.

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

PLCA is out of scope for this project and a layer violation for a PHY project.

SuggestedRemedy

Remove this variable and its descriptive paragraph.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* *L* **50** # 646
Thompson, Geoff GraCaSI S.A.

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

PLCA is out of scope for this project and a layer violation for a PHY project.

SuggestedRemedy

Remove the remainder of PCLA from this project draft.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.5** *P* *L* **10** # 647
Thompson, Geoff GraCaSI S.A.

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

For 10BASE5, 10BASE2 and 10BROAD36 a receive code violation was not considered to happen quickly enough or be reliable enough to provide reliable collision detection, ergo it is not good enough here.

SuggestedRemedy

Add collision detection based on energy received.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.5** *P* *L* **10** # 648
Thompson, Geoff GraCaSI S.A.

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

Collision detect as described here purports to detect a collision between this station and one other station. It does not descibe any way to detect a collision between any other two or more stations.

SuggestedRemedy

Add collision detection based on energy received. Lack of this aspect constitues a lack of completeness in the basic function of the specified device and therefore the draft. Restart the initial WG Ballot.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.6** *P* *L* **25** # 649
Thompson, Geoff GraCaSI S.A.

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

This text does not produce CRS. It only works when this station is transmitting or when it is receiving and decoding data. The requirement is that it detect activity on the media whether decodable as data or not.

SuggestedRemedy

Describe what it takes to fully implement the required function.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.7** *P* *L* **1** # 650
Thompson, Geoff GraCaSI S.A.

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

PLCA is out of scope for this project and a layer violation for a PHY project.

SuggestedRemedy

Remove the entirety of cl. 147.3.7.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4** *P* *L* **2** # 651
Thompson, Geoff GraCaSI S.A.

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

The PHY doesn't provide “both” half-duplex and full duplex communication.

SuggestedRemedy

Change “both” to “either”

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.2** *P* *L* **17** # 652
Thompson, Geoff GraCaSI S.A.

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

There is no obvious antecedent for the word “these”. Additionally this entire sentence seems badly out of place.

SuggestedRemedy

Move the sentence to wherever the output waveform is spec'd in terms of voltage. 147.5.4.1 doesn't seem to fit so the answer is not obvious to me.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.1** *P* *L* **22** # 653

Thompson, Geoff GraCaSI S.A.

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

There is no interoperable media connector specified. This severely limits the Broad Market Potential of this PHY, largely restricting it to internal connections of proprietary systems.

SuggestedRemedy

Provide specifications or reference for a mechanical spec. for a interoperable media connector. (This comment will be repeated as an MBS comment during Sponsor Ballot)

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.1** *P* *L* **3** # 654

Thompson, Geoff GraCaSI S.A.

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

This clause should actually start with the content claimed in the title, not the test for it. Further, the tests for that spec (rest of this para plus next cl./droop should be subordinate to this clause.

SuggestedRemedy

Move 1st sentence & figure to new subordinate clause. Make 147.5.4.2 also a subordinate clause.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.4.4** *P* *L* **30** # 655

Thompson, Geoff GraCaSI S.A.

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

What is this clause? Is it normative or informative? If it is informative then it is not needed. If it is normative then it actually needs to include actual specifications

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148** *P* **173** *L* **1** # 656

Thompson, Geoff GraCaSI S.A.

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

The inclusion of PLCA in this project is (1) a layer violation and (2) out of scope for a Physical Layer project according to clause 1.1 of the standard. Inclusion of PLCA conflicts with paragraph 3 of the responses to the “Compatibility” criteria of the CSD.

SuggestedRemedy

Remove clause 148 and related text from the draft. If PLCA is desired as an addition to the standards family it should be placed appropriately within the layer structure and have its own CFI.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.1** *P* **173** *L* **14** # 657

Thompson, Geoff GraCaSI S.A.

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

According to this text, “PLCA is designed to work on top of CSMA/CD”. Therefore it is mispositioned in the stack by being placed within the PHY which is below the CSMA/CD mechanism.

SuggestedRemedy

Remove clause 148 and related text from the draft. If PLCA is desired as an addition to the standards family it should be placed appropriately at MAC Control or higher within the layer structure and have its own CFI.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22** *P* **25** *L* **1** # 658

Thompson, Geoff GraCaSI S.A.

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

The proposed changes in this clause are at odds with the statement in the approved criteria on compatibility that states “As a PHY amendment to IEEE Std 802.3, the proposed project will use (the existing) MII”

SuggestedRemedy

Remove clause 148 and related text from the draft. If PLCA is desired as an addition to the standards family it should be placed appropriately at MAC Control or higher within the layer structure and have its own CFI.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147** *P* **145** *L* **1** # 659

Thompson, Geoff GraCaSI S.A.

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

There is no AUI defined in the draft. The AUI is an essential element of all 802.3 10 Mb/s PHY specifications. This is particularly true in the case of half duplex applications where it is used as a timing test point for calculating the delay used in CSMA/CD round trip timing sums (Ref: Table 4-2). An AUI definition point is also needed (even if it never appears externally on a piece of equipment) in order to be able to include the cl. 9 repeater in networking configurations. Even though (almost) no one else remembers it or thinks it is relevant, the c. 9 repeater is a valuable tool in the network kit. It has a very, very low transister count when compared to a bridge and much lower delay (~ 9 bit times) and jitter (not dependent on packet length) such that it is a superior element for time sensitive applications in terms of cost and performance.

SuggestedRemedy

Define and specify the AUI (no connector specification required) for the 10BASE-T1S PHY for use as a functional test point, a timing test point and a standardized element edge for IP implementations of the PHY.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147** *P* **145** *L* **1** # 660

Thompson, Geoff GraCaSI S.A.

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

I'm not convinced that the additional complexity of 4B/5B encoding and the scrambler are necessary to meet the operating environment requirements or are worth the extra silicon space in an environment where transistor count and delay still matter at this level.

SuggestedRemedy

Convince me.

Proposed Response *Response Status* **O**

Cl **00** *SC* **13** *P* *L* **3** # 661

Thompson, Geoff GraCaSI S.A.

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

When we added this note we thought we were through with 10 Mb/s and half duplex forever. That appears not to be the case.

SuggestedRemedy

Remove the note and update clause 13 appropriately to add 10BASE-T1S as a full fledged member of the 10 Mb/s CSMA/CD family.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.3.2.2** *P* **27** *L* **35** # 662

Thompson, Geoff GraCaSI S.A.

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

The text: “IEEE Std 802.3xx-201x, Clause...” is not up to date.

SuggestedRemedy

Change to read: “IEEE Std 802.3cg-201x, Clause...” in this instance and all equivalents throughout the draft.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **0** *L* **0** # 663

Thompson, Geoff GraCaSI S.A.

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

The use of a repeater in a mixing segment will allow that segment to have separate a 2.4 Vpp operating mode portion and a 1.0 Vpp operating mode portion. This has potential for reducing the cost of some 10BASE-T1S nodes in an automotive network.

SuggestedRemedy

Make the changes required to enable the use of a cl. 9 repeater with 10BASE-T1S.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 664
Donahue, Curtis UNH-IOL

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

There are many variants of Auto-Negotiation throughout the draft.

SuggestedRemedy

Scrub draft and change all variants of Auto-Negotiation to "Auto-Negotiation"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **24** # 665
Donahue, Curtis UNH-IOL

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

"multi-drop" should be "multidrop"

SuggestedRemedy

Change "multi-drop" to "multidrop"

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4** *P* **24** *L* **16** # 666
Donahue, Curtis UNH-IOL

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

"1.4.13b 10BASE-T1S" definition does not include any mention of reach, while "1.4.13a 10BASE-T1L" does. Suggest consistent language in both definitions. After reviewing other BASE-T definitions in 802.3-2015 it would appear that the common practice is to not include reach in the PHY type definion.

SuggestedRemedy

Remove "up to at least 1000 m reach"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1** *P* **85** *L* **8** # 667
Donahue, Curtis UNH-IOL

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

Unnecessary comma.

SuggestedRemedy

Change from "Together, the PCS, and PMA sublayers" to "Together, the PCS and PMA sublayers"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **85** *L* **34** # 668
Donahue, Curtis UNH-IOL

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

Clause 146 uses the term "single balanced pair of condustors" a lot, but there are some instances where "single balanced pair cabling" is used. Suggest scrubbing the Clause and being consistent.

SuggestedRemedy

Change instances of "single balanced pair cabling" to "single balanced pair of conductors"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **48** # 669
Donahue, Curtis UNH-IOL

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

The paragraph starting on line 48 has nearly the same content as the paragraph starting on line 36. Suggest removing the paragraph on line 48.

SuggestedRemedy

Remove text from line 48 to 50.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.2** *P* **121** *L* **20** # 670

Donahue, Curtis UNH-IOL

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

Change "sub clause" to "subclause".

SuggestedRemedy

Change "sub clause" to "subclause".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.4.1** *P* **122** *L* **37** # 671

Donahue, Curtis UNH-IOL

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

The last sentences of both paragraphs in 146.5.4.1 imply that the 10BASE-T1L voltage modes (2.4Vpp or 1.0Vpp) can be configured during Auto-Negotiation (presumably in CL98 is implemented). However, I could not find any references to voltage operation modes in CL98, but there are registers defined in CL45 to configure the voltage mode.

SuggestedRemedy

Make it clearer to the reader how the transmitter output voltage mode is configured, and modify the text to appropriately describe this.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.3** *P* **121** *L* **40** # 672

Donahue, Curtis UNH-IOL

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

146.5.3 is the "Test Fixture" subclause but only mentions one of the two defined test fixtures in CL146. Additionally, in 146.5.3 it is stated that the Test Fixture in Figure 146-17 "or its equivalent" can be used for measuring appropriate electrical characteristics, but this same language is missing from the mention of the PSD Test Fixture (Figure 146-18) in 146.5.4.4. It is important that the "or its equivalent" is applicable to both Test fixtures, particularly since Figure 146-18 specifies a Spectrum Analyzer and many T&M suppliers support this test being performed on an oscilloscope.

Additionally, it would probably be appropriate to anchor figure 146-18 close to 146.5.3.

SuggestedRemedy

Suggest the following changes:

1. modifying the text in the first paragraph to be similar to that in "55.5.2.1 Test Fixtures".
2. Move Figure 146-18 to subclause 146.5.3.
3. Rename Figure 146-17 to "Transmitter test fixture 1 for transmitter voltage, transmitter droop, and transmitter timing jitter".
4. Rename Figure 146-18 to "Transmitter test fixture 2 for power spectral density measurement and transmit power level measurement".

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.5.6** *P* **125** *L* **23** # 673

Donahue, Curtis UNH-IOL

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

The maximum voltage requirements defined in 146.5.6 seem to conflict with the requirements provided in 146.5.4.1. 146.5.6 seems to imply up to a +10% tolerance of the output amplitude, but 146.5.4.1 explicitly states a +/-5% tolerance.

Additionally, it's not clear to me why this subclause exists outside 146.5.4.

SuggestedRemedy

Suggest moving the text from 146.5.6 to 146.5.4.x, and resolving the conformance conflict between the two paragraphs.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.7.1.3** *P* **130** *L* **30** # 674
Donahue, Curtis UNH-IOL

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

The last sentence of the paragraph seems anecdotal and not necessary to include in the standard. At most this language might be part of a note, but since the conformance requirement is stated in the previous sentence then this sentence should be removed.

SuggestedRemedy

Remove "The delay is derived from the point-to-point 14 AWG (1.63 mm) link segment length of 1589 m given in Table 146B-1 using Equation (80-1) with an NVP of 0.6."

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.8.3** *P* **133** *L* **31** # 675
Donahue, Curtis UNH-IOL

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

Rogue equation number. should be centered with with equation (around line 26).

SuggestedRemedy

Fix equation number position

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **10** # 676
Donahue, Curtis UNH-IOL

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

This paragraph is nearly identical to that in 146.1, but with a small change in the last sentence. suggest making these paragraphs consistent.

SuggestedRemedy

Change "10BASE-T1S PCS and PMA." to "10BASE-T1S PCS, PMA and MDI."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **145** *L* **19** # 677
Donahue, Curtis UNH-IOL

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

This paragraph seems to be justifying why there isn't an optional EEE feature specified for 10BASE-T1S. While informative to the reader, it is unnecessary.

SuggestedRemedy

Suggest removing paragraph from line 19 to 20.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **46** # 678
Donahue, Curtis UNH-IOL

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

Not sure what the intent of this paragraph is. Only contains text suggesting markets that a 10BASE-T1S PHY can be applied.

SuggestedRemedy

Suggest removing paragraph from line 46 to 47.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **37** # 679
Donahue, Curtis UNH-IOL

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

Clause 147 uses several similar terms to describe the channel the 10BASE-T1S is specificed for. Observed terms are:

"single balanced pair of conductors" - CL:147.1.2 P:145 L:37
"single twisted-pair copped cable" - CL:147.1.2 P:145 L:41
"single balanced pair" - CL:147.4.3 P:161 L:20&21
"single balanced pair cabling" - CL:147.8 P:167 L:25

SuggestedRemedy

Suggest scubbing Clause 147 and making all references to the channel consistent.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.2** *P* **162** *L* **33** # 680
Donahue, Curtis UNH-IOL

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

This paragrpah only describes the transmitter behavior when two conditions are met, i) when "multidrop option is supported", and ii) "test mode 4 is enabled". I see no language suggesting that test mode 4 is optional to implement, therefore it can be expected that a transmitted can be configured for test mode 4 even when the multidrop option is not supported.

SuggestedRemedy

Suggest modifying this text to better describe the transmitters behavior when test mode 4 is enabled.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.3** *P* **162** *L* **36** # 681
Donahue, Curtis UNH-IOL

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

This is the Test Fixture subclause but has no mention of the two test fixture figures defined in this Clause.

SuggestedRemedy

Suggest the following changes:

1. modifying the text in the first paragraph to be similar to that in "55.5.2.1 Test Fixtures".
2. Move Figure 147-12 and 147-14 to subclause 147.5.3.
3. Rename Figure 147-12 to "Transmitter test fixture 1 for transmitter voltage, transmitter droop, and transmitter timing jitter".
4. Rename Figure 147-14 to "Transmitter test fixture 2 for power spectral density measurement".

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.4.1** *P* **164** *L* **29** # 682
Donahue, Curtis UNH-IOL

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

Missing upper bound on frequency for third section of equation.

SuggestedRemedy

Change "25 <= f" to "25 <= f <= 40"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.2** *P* **162** *L* **26** # 683
Donahue, Curtis UNH-IOL

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

The paragraph that describes the transmitter behavior in test mode 2 curiously seems to imply a conformance requirement of 1Vpp +/- 30%. However, this is not listed in 147.5.4.2 (the output droop subclause). Since this test mode is used to measure the droop over an 800ns period, a voltage requirement doesn't make much sense. Additionally, the 1Vpp +/- 30% conflicts with the 1Vpp +/- 20% defined in 147.5.4.1.

SuggestedRemedy

Remove "at 1 Vpp +/- 30% amplitude".

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.9.2** *P* **168** *L* **33** # 684
Donahue, Curtis UNH-IOL

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

Ctot is defined in the paragraph, but not actually used in Equation 147-6.

SuggestedRemedy

Remove references and language specific to Ctot.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.12** *P* **171** *L* **1** # 685
Donahue, Curtis UNH-IOL

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

Tell that lazy PICS editor to populate the PICS for Clause 147.

SuggestedRemedy

Give the PICS editor license to populate 147.12 as necessary.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.20.B.1.1** *P* **203** *L* **26** # 686
Donahue, Curtis UNH-IOL

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

Duplicated text "DC powering link sections".

SuggestedRemedy

Remove one of the "DC powering link sections" instances.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.3** *P* **174** *L* **28** # 687
Donahue, Curtis UNH-IOL

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

Looks like there is a strange image artificate in the title of Figure 148-1. "PMA" appeasrs in small text overlaying "model and".

SuggestedRemedy

Remove rogue "PMA" text from figure

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.8.2** *P* **168** *L* **10** # 688
Donahue, Curtis UNH-IOL

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

The "and" in "MDI attachment and at the end of stubs of length up to 10 cm" seems to be a typo.

SuggestedRemedy

Remove the "and" so the section of text reads as "MDI attachment at the end of stubs of length up to 10 cm"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1.2** *P* **145** *L* **41** # 689
Xu, Dayin Rockwell Automation

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

Should not use "single twisted-pair copper cable"

SuggestedRemedy

Change "… using a single twisted-pair copper cable ..." to "… using a single balanced pair of conductors …"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.2** *P* **147** *L* **33** # 690
Xu, Dayin Rockwell Automation

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

Lack of COL and CRS signals on MII interface side in the figure 147-2

SuggestedRemedy

Add COL and CRS signals into the MII interface in Figure 147-2

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.1** *P* **149** *L* **13** # 691
Xu, Dayin Rockwell Automation

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

Delete "a group of"

SuggestedRemedy

Change "… passes a group of two SYNC …" to "… passes two SYNC ..."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2.2** *P* **149** *L* **48** # 692

Xu, Dayin — Rockwell Automation

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

Use "TRUE or FALSE" or "ON or OFF"? pcs_txen on line 30 use "TRUE or FALSE" but here use "ON or OFF". It seems not consistent.

SuggestedRemedy

Task Fore needs to discuss to determine when to use "TRUE or FALSE" and when to use "ON or OFF". The change should be made based on the outcome of the discussion.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.2** *P* **152** *L* **34** # 693

Xu, Dayin — Rockwell Automation

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

Better to move "tx_sym <= SSD" before "err <= err + pcs_txer" to make the sequence consistent with other status (e.g. SILENT and SYNC1)

SuggestedRemedy

move "tx_sym <= SSD" before "err <= err + pcs_txer"

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.3.3.1** *P* **154** *L* **21** # 694

Xu, Dayin — Rockwell Automation

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

It is a little strange to have this note here because it does not specify anything actually.

SuggestedRemedy

Delete the note.

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.4** *P* **164** *L* **13** # 695

Xu, Dayin — Rockwell Automation

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

The Figure 147-14 should not appear before the text.

SuggestedRemedy

Move the Figure 147-14 after line 20 page 164

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.5.4.6** *P* **165** *L* **48** # 696

Xu, Dayin — Rockwell Automation

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

The paragraphs (Line 48-51 on page 165 and line 1-10 on page 166) does not belong to this sub-clause (147.5.4.6)

SuggestedRemedy

The paragraphs (Line 48-51 on page 165 and line 1-10 on page 166) should be moved before 147.5 PMA electrical specifications as a new sub-clause 147.4.5 PMA Loopback

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.3** *P* **174** *L* **28** # 697

Xu, Dayin — Rockwell Automation

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

A strange "PMA" text shown in the Figure Title

SuggestedRemedy

Clean up the title and delete "PMA"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.20.1.1** *P* **203** *L* **27** # 698
Xu, Dayin Rockwell Automation

Comment Type **E** *Comment Status* **X**
Repeteated text" DC Powering link sections" in Figure 146B-1

SuggestedRemedy
Delete one " DC Powering link sections"

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.11** *P* **26** *L* **34** # 699
Xu, Dayin Rockwell Automation

Comment Type **E** *Comment Status* **X**
delete "possibly"

SuggestedRemedy
change " … data reception is possibly about …" to " … data reception is about …"

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.13a** *P* **24** *L* **15** # 700
Kabra, Lokesh Synopsys Inc

Comment Type **E** *Comment Status* **X**
Correct "balanced twisted-pair cabling up to at least 1 000 m reach."

SuggestedRemedy
balanced pair of conductors up to at least 1000 m reach

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.4.13b** *P* **24** *L* **18** # 701
Kabra, Lokesh Synopsys Inc

Comment Type **E** *Comment Status* **X**
Correct "balanced twisted-pair cabling"

SuggestedRemedy
balanced pair cabling,

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.4** *P* **25** *L* **10** # 702
Kabra, Lokesh Synopsys Inc

Comment Type **E** *Comment Status* **X**
Change the instruction "Insert new third and fourth paragraphs after existing second paragraph in 22.2.4 as follows:"

SuggestedRemedy
Change second paragraph in 22.2.2.4 as follows

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.11** *P* **26** *L* **34** # 703
Kabra, Lokesh Synopsys Inc

Comment Type **E** *Comment Status* **X**
Change "signal while both TX_EN and RX_DV are deasserted to"

Reason: CRS is defined as "CRS shall be asserted by the PHY when either the transmit or receive medium is nonidle"; It is not defined with respect to TX_EN or RX_DV

SuggestedRemedy
signal while both transmit and receive medium are idle to

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.2.12** *P* **26** *L* **42** # 704
Kabra, Lokesh Synopsys Inc

Comment Type **E** *Comment Status* **X**
Change "signal while both TX_EN and RX_DV are deasserted to"

Reason: COLis defined as "COL shall be asserted by the PHY upon detection of a collision on the medium"; It is not defined with respect to TX_EN or RX_DV

SuggestedRemedy
signal while both transmit and receive medium are idle to

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a** *P* **36** *L* **29** # 705

Kabra, Lokesh — Synopsys Inc

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

Bit 1.2294.13 "Loopback" is a copy of Bit 1.0.0 (currently reserved). Suggest to map this one to 1.2294.0 to keep the bit position same in both registers. This make it similar to poisition of Reset and Low Power bits that have same offset as in register 1.0

SuggestedRemedy

Change mapping to bit "1.2294.0" globally (multiple places)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174b** *P* **38** *L* **15** # 706

Kabra, Lokesh — Synopsys Inc

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

"Low Power " control bit is Bit 1.2294.11. Suggest to map "Low Power Ability" to 1.2295.11 (currently reserved) to keep the bit position same in both registers. This helps in avoiding bit shifting when software wants to mask setting of Low-Power with "Low-Power ability" read from this register

SuggestedRemedy

Change mapping to bit "1.2295.11" globally (multiple places)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d** *P* **40** *L* **44** # 707

Kabra, Lokesh — Synopsys Inc

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

net-work

SuggestedRemedy

network

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174d** *P* **40** *L* **39** # 708

Kabra, Lokesh — Synopsys Inc

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

Bit 1.2299.13 "Loopback" is a copy of Bit 1.0.0 (currently reserved). Suggest to map this one to 1.2294.0 to keep the bit position same in both registers. This make it similar to poisition of Reset and Low Power bits that have same offset as in register 1.0

SuggestedRemedy

Change mapping to bit "1.2299.0" globally (multiple places)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **17** # 709

Kabra, Lokesh — Synopsys Inc

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

"Low Power " control bit is Bit 1.2299.11. Suggest to map "Low Power Ability" to 1.2230.11 (currently reserved) to keep the bit position same in both registers. This helps in avoiding bit shifting when software wants to mask setting of Low-Power with "Low-Power ability" read from this register

SuggestedRemedy

Change mapping to bit "1.2300.11" globally (multiple places)

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **20** # 710

Kabra, Lokesh — Synopsys Inc

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

"Multidrop mode " control bit is Bit 1.2299.10. Suggest to map "Multidrop Ability" to 1.2230.10 (currently reserved) to keep the bit position same in both registers. This helps in avoiding bit shifting whensoftware wants to mask setting of Multidrop with "Multidrop ability" read from this register

SuggestedRemedy

Change mapping to bit "1.2300.10" globally (multiple places)

Proposed Response *Response Status* **O**

Cl **78** *SC* **78.1.3.3.1** *P* **57** *L* **22** # 711
Kabra, Lokesh Synopsys Inc

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

In Table 78-1, delete row corresponding to 10BASE-T1S; As per clause 147.1, 3rd paragrap "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78". Hence LPI signalling is not used/applicable for 10BASE-T1S

SuggestedRemedy

Delete row "10BASE-T1S"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.1** *P* **87** *L* **3** # 712
Kabra, Lokesh Synopsys Inc

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

Overview paragraph structure/content different from other similar PCS sections in standard

SuggestedRemedy

Change to "The 10BASE-T1L PCS couples a Media Independent Interface (MII), as described in Clause 22, to the 10BASE-T1L Physical Medium Attachment (PMA) sublayer"

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2.2** *P* **87** *L* **8** # 713
Kabra, Lokesh Synopsys Inc

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

First line structure/content different from other similar PMA sections in standard

SuggestedRemedy

Change to "The 10BASE-T1L PMA couples messages from the PCS service interface onto a single balanced pair of conductors and supports the link management and the 10BASE-T1L PHY Control function."

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.2** *P* **147** *L* # 714
Kabra, Lokesh Synopsys Inc

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

CRS & COL signals missing in Figure 147-2

SuggestedRemedy

Add CRS, COL signals towards MII in Fig 147-2

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.2** *P* **175** *L* **32** # 715
Kabra, Lokesh Synopsys Inc

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

As per Clause 90.1, paragraphy 2, "The TSSI is defined for the full-duplex mode of operation only". PLCA is defined/active for half-duplex only. Hence they are not operating simultaneously.

SuggestedRemedy

Delete "Interaction with optional Clause 90 (Ethernet support for time synchronization protocols) is also depicted."

Proposed Response *Response Status* **O**

Cl **148** *SC* **148** *P* **176** *L* **33** # 716
Kabra, Lokesh Synopsys Inc

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

Same reasons as above

SuggestedRemedy

Delete 148.4.2.1, Correct Fig 148-3 to remove optional "SFD Detect TX" block

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **48** # 717

McClellan, Brett Marvell

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

paragraph is redundant to line 36.

SuggestedRemedy

Delete the paragraph

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6** *P* **68** *L* **8** # 718

McClellan, Brett Marvell

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

transition from AN COMPLETE to SPEED DETECTION has two separate qualifier listed: "failure_timer expired" and "an_link_good = FALSE". Which one is correct?

SuggestedRemedy

Delete "failure_timer expired"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.174a.6** *P* **37** *L* **42** # 719

McClellan, Brett Marvell

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

EEE is currently defined as a configured mode, however EEE only works when negotiated with a link partner.

SuggestedRemedy

Delete this register bit definition and replace with a EEE advertisement bit in MMD 7. See my other comment.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.3.4.1.1** *P* **109** *L* **49** # 720

McClellan, Brett Marvell

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

lpi_enabled currently depends only on a configuration bit, however a mismatched configuration between link partners will cause dropped links. EEE only works when negotiated with a link partner.
lpi_enabled should be based on a negotiated capability, not a configuration bit

SuggestedRemedy

Delete register bit 1.2294.10 definition and replace with a EEE advertisement bit in MMD 7. See my other comment.
Change lpi_enabled definition (here and in 146.4.4.1) to indicate that lpi_enabled is TRUE when both the link partner and the local device advertise EEE ability for this PHY type.

Proposed Response *Response Status* **O**

Cl **146** *SC* **146.1.2** *P* **86** *L* **36** # 721

McClellan, Brett Marvell

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

page 86 states "A 10BASE-T1L PHY may optionally support Energy-Efficient Ethernet (see Clause 78) and advertise the
EEE capability during Auto-Negotiation as described in Annex 98B.3."
Therefore EEE support is negotiated and supported only when both sides advertise EEE ability.
EEE advertisement bit should be placed in new 10BASE-T1 AN control 1 register at 7.526

SuggestedRemedy

Advertisement and status registers for 10BASE-T1L and 10BASE-T1S should be placed in MMD7.
I suggest defining 10BASE-T1 AN control 1 register at 7.526 with the following bits defined:
10BASE-T1L Full duplex ability advertisement
10BASE-T1L EEE advertisement
10BASE-T1L Increased transmit/receive level ability advertisement
10BASE-T1S Full duplex ability advertisement
10BASE-T1S Half duplex ability advertisement
PLCA ability advertisement
PLCA coordinator ability advertisement

I suggest defining 10BASE-T1 AN status 1 registers at 7.527 with the following bits defined:
10BASE-T1L Link partner Full duplex ability advertisement
10BASE-T1L Link partner EEE advertisement
10BASE-T1L Link partner Increased transmit/receive level ability advertisement
10BASE-T1S Link partner Full duplex ability advertisement
10BASE-T1S Link partner Half duplex ability advertisement
Link partner PLCA ability advertisement
Link partner PLCA coordinator ability advertisement

Proposed Response *Response Status* **O**

Cl **98** *SC* **98B.3** *P* **197** *L* **48** # 722

McClellan, Brett Marvell

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

full duplex and half duplex advertisement should be tied to a specific technology, e.g. 10GBASE-T1L full duplex ability

SuggestedRemedy

Change the bit names and definition to indicate which PHY technology is advertising full duplex.
e.g.
10BASE-T1L Full duplex ability advertisement
10BASE-T1S Full duplex ability advertisement
10BASE-T1S Half duplex ability advertisement

Proposed Response *Response Status* **O**

Cl **98** *SC* **98B.3** *P* **198** *L* **1** # 723

McClellan, Brett Marvell

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

TX level advertisement should be tied to a specific technology, e.g. 10GBASE-T1L Increased transmit/receive level ability

SuggestedRemedy

Change the bit name and definition to indicate which PHY technology is advertising increased transmit/receive level.
e.g.
10BASE-T1L Increased transmit/receive level ability advertisement

Proposed Response *Response Status* **O**

Cl **98** *SC* **98B.3** *P* **198** *L* **6** # 724

McClellan, Brett Marvell

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

EEE advertisement should be tied to a specific technology, e.g. 10GBASE-T1L EEE ability

SuggestedRemedy

Change the bit name and definition to indicate which PHY technology is advertising increased transmit/receive level.
e.g.
10BASE-T1L EEE ability advertisement
10BASE-T1S EEE ability advertisement

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6** *P* **68** *L* **13** # 725

McClellan, Brett Marvell

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

variable mr_main_reset is already defined in 802.3bp to be sourced from 7.512.15 AN reset. A state machine cannot assign a different value to this variable.

SuggestedRemedy

Create a new variable that may be assigned based on this state machine and may be used in combination with mr_main_reset.

Proposed Response *Response Status* **O**

Cl **98** *SC* **98.5.6.1** *P* **68** *L* **42** # 726

McClellan, Brett Marvell

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

If autoneg_reset is a management controlled variable then it should be renamed mr_autoneg_reset with an entry in table 98-7 showing which management register bit drives this variable.
State machines take precedence over text and a text description cannot modify the behavior of a state machine. This paragraph appears to try to modify the behavior of defined variables and state machines.

SuggestedRemedy

rename autoneg_reset to mr_autoneg_reset with an entry in table 98-7 showing which management register bit drives this variable.
delete "If only single speed Auto-Negotiation is implemented, variable mr_main_reset has to be used instead as described in 98.5.1."

Proposed Response *Response Status* **O**