

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC FM P 3 L 3 # 586
Healey, Adam Broadcom Inc.

Comment Type T Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 586. Resolve with 363, 606, and 426.

Replace "on single balanced pair copper cabling" with "over a single balanced pair of conductors" on page 3, line 3

Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery" with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page 23, line 10

See comments 425 and 447 for new text to replace the sentence on page 1, line 20

CI 00 SC FM P 3 L 3 # 587
Healey, Adam Broadcom Inc.

Comment Type T Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Add ";PLCA; Physical Layer Collision Avoidance" to the list of keywords after Physical Medium Attachment

CI 00 SC FM P 10 L 3 # 739
Zimmerman, George CME Consulting etal

Comment Type E Comment Status A Late

Need to fill in 802.3cg and title of amendment in boxed note.

SuggestedRemedy

Change "802.3xx-20xx" to "802.3cg-20xx", and change "Amendment title (copy from PAR)" to "Physical Layer Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors"

Response Response Status C

ACCEPT.

CI 00 SC FM P 11 L 33 # 354
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove yellow highlighting from "z and its ammendments" on lines 33, 39, and 47 of page 11.

Replace "201x" with "2018" on lines 33, 39, and 47 of page 11.

Replace "IEEE Std 802.3btT-201x" with "IEEE Std 802.3btT-2018" on line 37 and remove yellow highlight.

Replace "IEEE Std 802.3cbT-201x" with "IEEE Std 802.3cbT-2018" on line on line 31 and remove yellow highlight.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type E Comment Status A EZ

The variable copyright_year is set to 2017 in the TOC file

SuggestedRemedy

Set the variable copyright_year to 2018 in the TOC file

Response Response Status C

ACCEPT.

CI 00 SC FM P 23 L 1 # 363
Trowbridge, Steve Nokia

Comment Type ER Comment Status A EZ

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"

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 586. Resolve with 586, 426, and 606.

Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery"

with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page 23, line 10

CI 00 SC 0 P L # 62
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

CI 00 SC 0 P L # 518
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status A EZ

Timer done / not done events name in state diagrams are not inline with conventions 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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Jon Lewis to implement remedy when state diagrams in Clauses 147 and 148 are generated in FrameMaker.

CI 00 SC 0 P L # 664
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A EZ

There are many variants of Auto-Negotiation throughout the draft.

SuggestedRemedy

Scrub draft and change all variants of Auto-Negotiation to "Auto-Negotiation"

Response Response Status C

ACCEPT IN PRINCIPLE.

Globally search for "AutoNegotiation", "Auto Negotiation", "auto negotiation", and "Auto negotiation" and replace with "Auto-Negotiation".

Chief Editor to implement remedy when preparing the files for d2p1.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC 0 P 0 L 0 # 633
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove the extra paragraph mark between "subject to change" and the page number in both the odd and even master pages in all of the files in the draft.

CI 00 SC 0 P 0 L 0 # 632
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status R Big Ticket Item AUI

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.

Response Response Status W

REJECT.

Consensus not to change. Refer to motion 9 from Unconfirmed_minutes_3cg_0918.pdf

CI 00 SC 0 P 0 L 0 # 663
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D Big Ticket Item Repeaters

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 Z

REJECT.

This comment was WITHDRAWN by the commenter.

Master comment 663. Consider with 632, 304, 661, 648, 313, and 659.

Task Force to discuss whether to add repeaters to the draft and whether there is any other reason to specify the AUI reference point. If not, proposed resolution is as follows:

Insert new paragraph after 145, line 25, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1S PHYs."

Insert new paragraph after 85, line 21, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1L PHYs."

Editor's Note: Repeaters are not defined for 10BASE-T1S. The use of repeaters would enable reach extension, but can also bring a number of misconfiguration issues from the past, including that clause 9 has not been maintained. Task Force either needs to define the AUI and state repeaters are in scope, or explicitly state repeaters are not allowed for 10BASE-T1S PHYs.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC 0 P 1 L 34 # 447
Booth, Brad Microsoft

Comment Type ER Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 447. Resolve with 425.

Replace, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters associated optional provision of power, on single balanced twisted-pair copper cabling."

with, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters and associated optional provision of power for operation over a single balanced pair of conductors."

CI 00 SC 0 P 23 L 10 # 606
Bains, Amrik Cisco

Comment Type ER Comment Status A EZ

"Single Balanced Twisted-pair Cabling"

SuggestedRemedy

"Single Balanced pair of Conductors"

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 586. Resolve with 586, 426, and 363.

Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery"

with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page 23, line 10

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

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC 0 P 89 L 19 # 89
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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 Shift-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-"

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ

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)

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **00** SC **9** P **0** L # **304**
KIM, YONG NIO

Comment Type **ER** Comment Status **A** Big Ticket Item Repeaters

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, appropriate place to note 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 something so that readers get clear direction and don't get confused.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Task Force agrees that 10BASE-T1L and 10BASE-T1S will not define an AUI or support the use of clause 9 repeaters.

Editorial license to implement changes in motion 8 from
Unconfirmed_minutes_3cg_0918.pdf

Straw Poll #2:
I agree with the following statement:

A: P802.3cg should define its PHYs to support repeaters and the necessary functionality (e.g., AUI)
B: P802.3cg should define repeaters as out of bounds for all 10BASE-T1 PHY types
C: None of the above, but I have an opinion. (something else should be done with regards to repeaters)

A:6
B:23
C:0
Abstain:9

CI **00** SC **13** P L **3** # **661**
Thompson, Geoff GraCaSI S.A.

Comment Type **TR** Comment Status **R** Big Ticket Item Repeaters

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.

Response Response Status **W**

REJECT.

Consensus not to change. Refer to motion 9 from Unconfirmed_minutes_3cg_0918.pdf

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

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

Annex A has no content

SuggestedRemedy

Remove Annex A unless explicitly needed

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Master comment 6. Resolve with 127 and 590.

Delete Annex A.

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

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

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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Master comment 6. Resolve with 6 and 590.

Delete Annex A.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC A P 195 L 12 # 590
 Healey, Adam Broadcom Inc.

Comment Type T Comment Status A EZ
 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.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Master comment 6. Resolve with 6 and 127.

Delete Annex A.

CI 00 SC cover page P 1 L 34 # 425
 Wienckowski, Natalie General Motors

Comment Type E Comment Status A EZ
 still have twisted-pair

SuggestedRemedy
 Change "single balanced twisted-pair copper cabling" to "single balanced pair of conductors".

Response Response Status C
 ACCEPT IN PRINCIPLE.

Master comment 447. Resolve with 447

Replace, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters associated optional provision of power, on single balanced twisted-pair copper cabling."

with, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters and associated optional provision of power for operation over a single balanced pair of conductors."

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

Comment Type E Comment Status A EZ
 [EASY] 10BASE-T1; .; MASTER-SLAVE

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

Response Response Status C
 ACCEPT IN PRINCIPLE.

Replace "10BASE-T1" with "10BASE-T1L; 10BASE-T1S" on line 4.

CI 01 SC 1 P 23 L 13 # 426
 Wienckowski, Natalie General Motors

Comment Type E Comment Status A EZ
 still have twisted-pair

SuggestedRemedy
 Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".

Response Response Status C
 ACCEPT IN PRINCIPLE.

Master comment 586. Resolve with 586, 363, and 606.

Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery" with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page 23, line 10

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 01 SC 1 P 24 L 1 # 450
Jones, Peter Cisco

Comment Type TR Comment Status D Editorial

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 Z

REJECT.

This comment was WITHDRAWN by the commenter.

Consider with comments 500 and 487.

PHYs at 100 Mb/s or less are already covered in Annex 31B:

"At operating speeds of 100 Mb/s or less, a station that implements an exposed MII, shall not begin to transmit a (new) frame (assertion of TX_EN at the MII, see 22.2.2.3) more than one pause_quantum after the reception of a valid PAUSE frame (deassertion of RX_DV at the MII, see 22.2.2.7) that contains a nonzero value of pause_time. Stations that do not implement an exposed MII, shall measure this time at the MDI, with the timing specification increased to one pause_quantum + 64 BT."

CI 01 SC 1.3 P 24 L 3 # 588
Healey, Adam Broadcom Inc.

Comment Type T Comment Status A EZ

This amendment appears to add no new normative references.

SuggestedRemedy

Remove 1.3, or list the normative references added by this amendment.

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 588. Resolve with 22.

Chief Editor to submit Maintenance Request to add references to IEC 60068-2-1:2007, IEC 60068-2-27:2008, IEC 60068-2-30:2005, IEC 60068-2-38:2009, IEC 60068-2-52:2017, IEC 60068-2-64:2008, and IEC 60068-2-78:2012 to next edition of 802.3.

Add the following normative references starting at line 9:

IEC 60068-2-2:2007, Environmental testing - Part 2-2: Tests - Test B: Dry heat.

IEC 60068-2-6:2007, Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal).

IEC 60068-2-14:2009, Environmental testing - Part 2-14: Tests - Test N: Change of temperature.

IEC 60068-2-27:2008, Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock.

IEC 60068-2-31:2008, Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens.

IEC 60079-0: 2014, Explosive atmospheres. Part 1. Equipment protection by flameproof enclosures.

IEC 60079-11: 2011, Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety.

IEC 60529:2013, Degrees of Protection Provided by Enclosures (IP Code).

IEC 61000-4-4:2012, Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.

IEC 61000-4-5: 2017, Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test.

IEC 61000-4-6:2013, Electromagnetic compatibility (EMC) - Part 4-6: Testing and

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 01

SC 1.3

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measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.

IEC 61000-6-4:2018, Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.

IEC 61010-1:2017, Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements.

IEC 61156-13:201x, Multicore and symmetrical pair/quad cables for digital communications - Part 13: Symmetrical single pair cables with transmission characteristics up to 20 MHz - Horizontal floor wiring - Sectional specification.

IEC 62368-1:2014, Audio/video, information and communication technology equipment - Part 1: Safety requirements.

ISO 4892:1982, Plastics - Methods of exposure to laboratory light.

Insert the following Editor's note after IEC 61156-13:201x, Editor's Note (to be removed prior to publication): IEC NP 61156-13 is still in development and the specification reference will likely change prior to publication. The references will be considered for inclusion in the draft based on Task Force review of relevancy prior to publication.

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

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

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.

Suggested Remedy

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

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Master comment 588. Resolve with 588.

Chief Editor to submit Maintenance Request to add references to IEC 60068-2-1:2007, IEC 60068-2-27:2008, IEC 60068-2-30:2005, IEC 60068-2-38:2009, IEC 60068-2-52:2017, IEC 60068-2-64:2008, and IEC 60068-2-78:2012 to next edition of 802.3.

Add the following normative references starting at line 9:

IEC 60068-2-2:2007, Environmental testing - Part 2-2: Tests - Test B: Dry heat.

IEC 60068-2-6:2007, Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal).

IEC 60068-2-14:2009, Environmental testing - Part 2-14: Tests - Test N: Change of temperature.

IEC 60068-2-27:2008, Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock.

IEC 60068-2-31:2008, Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens.

IEC 60079-0: 2014, Explosive atmospheres. Part 1. Equipment protection by flameproof enclosures.

IEC 60079-11: 2011, Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety.

IEC 60529:2013, Degrees of Protection Provided by Enclosures (IP Code).

IEC 61000-4-4:2012, Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.

IEC 61000-4-5: 2017, Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test.

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IEC 61000-4-6:2013, Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.

IEC 61000-6-4:2018, Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.

IEC 61010-1:2017, Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements.

IEC 61156-13:201x, Multicore and symmetrical pair/quad cables for digital communications - Part 13: Symmetrical single pair cables with transmission characteristics up to 20 MHz - Horizontal floor wiring - Sectional specification.

IEC 62368-1:2014, Audio/video, information and communication technology equipment - Part 1: Safety requirements.

ISO 4892:1982, Plastics - Methods of exposure to laboratory light.

Insert the following Editor's note after IEC 61156-13:201x, Editor's Note (to be removed prior to publication): IEC NP 61156-13 is still in development and the specification reference will likely change prior to publication. The references will be considered for inclusion in the draft based on Task Force review of relevancy prior to publication.

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

Comment Type	E	Comment Status	A	EZ
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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

Response	Response Status	C
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ACCEPT.

CI 01	SC 1.4	P 24	L 15	# 265
KIM, YONG				
NIO				

Comment Type	TR	Comment Status	A	General
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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.

Response	Response Status	W
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ACCEPT IN PRINCIPLE.

Reach should be specified by 10BASE-T1S and 10BASE-T1L. Accommodated by #368. No additional change required.

Resolution to comment 368 adds reach information to the definition of 10BASE-T1S.

CI 01	SC 1.4	P 24	L 16	# 666
Donahue, Curtis				
UNH-IOL				

Comment Type	E	Comment Status	A	Editorial
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"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 definition.

SuggestedRemedy

Remove "up to at least 1000 m reach"

Response	Response Status	C
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ACCEPT IN PRINCIPLE.

Reach should be specified by 10BASE-T1S and 10BASE-T1L. Accommodated by #368. No additional change required.

Resolution to comment 368 adds reach information to the definition of 10BASE-T1S.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 01 SC 1.4 P 24 L 18 # 607
 Bains, Amrik Cisco
 Comment Type ER Comment Status A Editorial
 "single balanced twisted-pair cabling"
 SuggestedRemedy
 "singlebalanced pair of conductors"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 368. Resolve with 368, 701, 144, and 428.
 Change from, "over short reach single balanced twisted-pair cabling"
 to, "over a single balanced pair of conductors up to at least 15m reach"

CI 01 SC 1.4.13a P 24 L 15 # 700
 Kabra, Lokesh Synopsys Inc
 Comment Type E Comment Status A EZ
 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
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 427. Resolve with 427.
 Change, "over single balanced twisted-pair cabling" to "over a single balanced pair of conductors"

CI 01 SC 1.4.13a P 24 L 15 # 427
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status A EZ
 still have twisted-pair
 SuggestedRemedy
 Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 427. Resolve with 700.
 Change, "over single balanced twisted-pair cabling" to "over a single balanced pair of conductors"

CI 01 SC 1.4.13b P 24 L 18 # 144
 Lewis, Jon Dell EMC
 Comment Type ER Comment Status A Editorial
 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.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 368. Resolve with 368, 701, 607, and 428.
 Change from, "over short reach single balanced twisted-pair cabling"
 to, "over a single balanced pair of conductors up to at least 15m reach"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 01 SC 1.4.13b P 24 L 18 # 701
 Kabra, Lokesh Synopsys Inc
 Comment Type E Comment Status A Editorial
 Correct "balanced twisted-pair cabling"
 SuggestedRemedy
 balanced pair cabling,
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 368. Resolve with 368, 144, 607, and 428.
 Change from, "over short reach single balanced twisted-pair cabling"
 to, "over a single balanced pair of conductors up to at least 15m reach"

CI 01 SC 1.4.13b P 24 L 18 # 368
 Matheus, Kirsten BMW AG
 Comment Type ER Comment Status A Editorial
 "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.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 368. Resolve with 701, 144, 607, and 428.
 Change from, "over short reach single balanced twisted-pair cabling"
 to, "over a single balanced pair of conductors up to at least 15m reach"

CI 01 SC 1.4.13b P 24 L 19 # 428
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status A Editorial
 still have twisted-pair
 SuggestedRemedy
 Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 368. Resolve with 368, 701, 144, and 607.
 Change from, "over short reach single balanced twisted-pair cabling"
 to, "over a single balanced pair of conductors up to at least 15m reach"
 Resolve with 368, 701, 144, and 607.

CI 01 SC 1.4.390a P 24 L 23 # 596
 Lapak, Jeffrey UNH-IOL
 Comment Type E Comment Status A PLCA
 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 opportunities for 10BASE-T1S multidrop PHYs operating on mixing segments in order to avoid physical collisions on the medium and improve performance"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace, "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"
 with, "A method for generating transmit opportunities for 10BASE-T1S multidrop PHYs operating on mixing segments in order to avoid physical collisions on the medium and improve performance"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 01 SC 1.5 P 24 L 32 # 266
KIM, YONG NIO

Comment Type TR Comment Status A EZ

At least I see FSM as a missing abbreviation (Fig 148-3). Please add and find other missing abbreviation and add them.

SuggestedRemedy

please fix them.

Response Response Status C

ACCEPT IN PRINCIPLE.

Add the following before PLCA abbreviation in clause 1.5:

FSM Finite State Machine

CI 22 SC 22 P 25 L 1 # 658
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status R Big Ticket Item PLCA

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.

Response Response Status U

REJECT. Group to discuss.

Straw Poll: Reject comment #658 because 1) PLCA is compatible and operates with the CSMA CD MAC, not as a MAC function and 2) PLCA operates as a reconciliation sublayer and does not change the PLS service primitives.

Y: 27

N: 2

A: 7

CI 22 SC 22 P 27 L 1 # 608
Bains, Amrik Cisco

Comment Type ER Comment Status A EZ

22.3 section is wrong

SuggestedRemedy

22.8

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 608. Resolve with 27.

Change "22.3" to "22.8" on line 1 and renumber all subclauses accordingly.

CI 22 SC 22 P 28 L 4 # 609
Bains, Amrik Cisco

Comment Type TR Comment Status A EZ

Empty tables

SuggestedRemedy

Add information to tables

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 8, 30, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.2.2 P 25 L 37 # 573
Gauthier, Claude NXP (claude.gauthier)

Comment Type TR Comment Status R Big Ticket Item PLCA

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 transmission 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 & specific 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.

Response Response Status U

REJECT.

No consensus for change.
Comment fails to provide sufficient remedy.

Additionally, the chair charters an ad hoc specifically to investigate and propose a recommended solution within the project scope of IEEE P802.3cg to implement the functionality desired in comment 573 on 802.3cg d2p0 (e.g., at least not requiring a new service interface). The ad hoc will be announced to the 802.3 Working Group community. The ad hoc shall report its progress to the Task Force, and the Task Force shall report this to the 802.3 Working Group at the November plenary.

To reject the comment and charter the ad hoc as above:
Y:25
N:1
A:9

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

Comment Type E Comment Status A EZ

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:"

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 24. Resolve with 157 and 702.

Replace, "Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:"

with, "Change the second paragraph in 22.2.4 as follows:"

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

Comment Type E Comment Status A EZ

[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)

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 24. Resolve with 24 and 702.

Replace, "Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:"

with, "Change the second paragraph in 22.2.4 as follows:"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.2.2.4 P 25 L 10 # 702
Kabra, Lokesh Synopsys Inc

Comment Type E Comment Status A EZ

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 24. Resolve with 24 and 157.

Replace, "Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:"

with, "Change the second paragraph in 22.2.2.4 as follows:"

CI 22 SC 22.2.2.4 P 25 L 13 # 292
KIM, YONG NIO

Comment Type TR Comment Status R PLCA

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.

Response Response Status W

REJECT.

This text has not been deleted. An additional pair of TXD values have been inserted, which result in the text being moved to page 25, line 21 of draft 2.0.

CI 22 SC 22.2.2.4 P 25 L 15 # 158
Grabner, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status A EZ

[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)

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace "22.2.4" with "22.2.2.4" on line 9.

Editor's note: Change to line 16 addressed by comment 24.

CI 22 SC 22.2.2.4 P 25 L 18 # 293
KIM, YONG NIO

Comment Type TR Comment Status A Big Ticket Item PLCA

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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_22_r2p0_resolution.pdf. Changes are marked with #293 in the right boxes

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 22 SC 22.2.2.4 P 25 L 18 # 451
Jones, Peter Cisco

Comment Type E Comment Status A Big Ticket Item PLCA

Add PLCA definition or forward reference before first use. Same for BEACON, COMMIT, and any other new terms

SuggestedRemedy

As per comment

Response Response Status C

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_22_r2p0_resolution.pdf. Changes are marked with #451 in the right boxes

Cl 22 SC 22.2.2.4 P 25 L 22 # 294
KIM, YONG NIO

Comment Type TR Comment Status R PLCA

The sentence "Other.shall.. upon the PHY"

SuggestedRemedy

Unnecessary 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.

Response Response Status W

REJECT.

This is not new text. It is present in clause 22.2.2.4 of 802.3-2018. Removing this sentence may cause backward compatibility issues.

An additional pair of TXD values have been inserted, which result in the text being moved to page 25, line 21 of draft 2.0.

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

Comment Type E Comment Status A EZ

[EASY] .:

SuggestedRemedy

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

Response Response Status C

ACCEPT.

Cl 22 SC 22.2.2.5 P 25 L 44 # 25
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

The editing instruction says "Change the second paragraph in 22.2.5 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"

Response Response Status C

ACCEPT.

Master comment 25. Resolve with 160, 161, 163, and 164.

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

Comment Type E Comment Status A EZ

[EASY] 22.2.5

SuggestedRemedy

22.2.2.5 (correct Clause reference)

Response Response Status C

ACCEPT.

Master comment 25. Consider with comment 25.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.2.2.5 P 25 L 46 # 369
Matheus, Kirsten BMW AG

Comment Type ER Comment Status A Editorial

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)

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace, "Assertion of the TX_ER signal shall not affect the transmission of data when a PHY is operating at 10 Mb/s (with the exception of 10BASE-T1S and 10BASE-T1L), or when TX_EN is deasserted."

with, "When TX_EN is deasserted, the assertion of the TX_ER signal shall not affect the transmission of data when a PHY is operating at 10 Mb/s (with the exception of 10BASE-T1S and 10BASE-T1L)." and show applicable strikeouts and underlines to note deletions and additions.

CI 22 SC 22.2.2.5 P 25 L 46 # 295
KIM, YONG NIO

Comment Type TR Comment Status R PLCA

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.

Response Response Status W

REJECT.

No change is being made to the original clause 22 "shall not affect" text. The modification is the addition of "(with the exception of 10BASE-T1S and 10BASE-T1L)". The idea, which has been discussed in the group, is that we don't want to preclude using TX_ER with new 10BASE-T PHYs, so an exception has been added.

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

Comment Type E Comment Status A EZ

[EASY] 22.2.8

SuggestedRemedy

22.2.2.8 (correct Clause reference)

Response Response Status C

ACCEPT.

Master comment 25. Consider with comment 25.

CI 22 SC 22.2.2.8 P 26 L 5 # 296
KIM, YONG NIO

Comment Type TR Comment Status A Big Ticket Item PLCA

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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_22_r2p0_resolution.pdf. Changes are marked with #296 in the right boxes.

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

Comment Type E Comment Status A EZ

[EASY] Table 22-1

SuggestedRemedy

Table 22-2 (see table below)

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 26. Resolve with 26.

Change "Table 22-1" to "Table 22-2" in editing instruction.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 22 **SC 22.2.2.8** **P 26** **L 10** # **26**
 Anslow, Pete Ciena
Comment Type E **Comment Status A** **EZ**
 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 .".
Response **Response Status C**
 ACCEPT IN PRINCIPLE.
 Master comment 26. Resolve with 162.
 Change "Table 22-1" to "Table 22-2" in editing instruction.

Cl 22 **SC 22.2.2.11** **P 26** **L 30** # **163**
 Graber, Steffen Pepperl+Fuchs GmbH
Comment Type E **Comment Status A** **EZ**
 [EASY] 22.2.11
SuggestedRemedy
 22.2.2.11 (correct Clause reference)
Response **Response Status C**
 ACCEPT.
 Master comment 25. Consider with comment 25.

Cl 22 **SC 22.2.2.11** **P 26** **L 33** # **297**
 KIM, YONG NIO
Comment Type TR **Comment Status A** **PLCA**
 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).
Response **Response Status W**
 ACCEPT IN PRINCIPLE.
 This text has been deleted by changes marked #649 in Clause_22_r2p0_resolution.pdf.

Cl 22 **SC 22.2.2.11** **P 26** **L 34** # **703**
 Kabra, Lokesh Synopsys Inc
Comment Type E **Comment Status A** **Editorial**
 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
Response **Response Status C**
 ACCEPT IN PRINCIPLE.
 This text has been deleted by changes marked #649 in Clause_22_r2p0_resolution.pdf.

Cl 22 **SC 22.2.2.11** **P 26** **L 34** # **699**
 Xu, Dayin Rockwell Automation
Comment Type E **Comment Status A** **Editorial**
 delete "possibly"
SuggestedRemedy
 change " . data reception is possibly about ." to " . data reception is about ."
Response **Response Status C**
 ACCEPT IN PRINCIPLE.
 This text has been deleted by changes marked #649 in Clause_22_r2p0_resolution.pdf.

Cl 22 **SC 22.2.2.12** **P 26** **L 39** # **164**
 Graber, Steffen Pepperl+Fuchs GmbH
Comment Type E **Comment Status A** **EZ**
 [EASY] 22.2.12
SuggestedRemedy
 22.2.2.12 (correct Clause reference)
Response **Response Status C**
 ACCEPT.
 Master comment 25. Consider with comment 25.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 22	SC 22.2.2.12	P 26	L 42	# 298
KIM, YONG		NIO		
Comment Type	TR	Comment Status	R	PLCA
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).				
Response	Response Status		W	
REJECT.				
Actions and signals are described in clause 148.4.4.1.3, which is referenced by 22.2.2.11 as appropriate.				

Cl 22	SC 22.2.2.12	P 26	L 42	# 704
Kabra, Lokesh		Synopsys Inc		
Comment Type	E	Comment Status	A	Editorial
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				
Response	Response Status		C	
ACCEPT IN PRINCIPLE.				
Replace, "When PLCA capability is supported and enabled, the PHY may optionally assert COL along with the CRS signal while both TX_EN and RX_DV are deasserted to"				
with, "When PLCA capability is supported and enabled, the PHY may assert COL signal when both TX_EN and RX_DV are deasserted to"				
Editor's Note: The intention is to use the combination of CRS = TRUE and COL = TRUE to signal an early receive indication. Specifying that COL shall not be rised if TX_EN or RX_DV are asserted is required to disambiguate the signaling of an early receive condition from a collision and a reception. The new proposed text defines an additional case to rise COL (which is the intended change), without affecting already existing behavior.				

Cl 22	SC 22.3	P 27	L 1	# 27
Anslow, Pete		Ciena		
Comment Type	E	Comment Status	A	EZ
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.				
Response	Response Status		C	
ACCEPT IN PRINCIPLE.				
Master comment 608. Resolve with 27.				
Change "22.3" to "22.8" on line 1 and renumber all subclauses accordingly				

Cl 22	SC 22.3	P 27	L 1	# 334
Yseboodt, Lennart		Signify		
Comment Type	ER	Comment Status	A	EZ
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.				
Response	Response Status		W	
ACCEPT IN PRINCIPLE.				
Master comment 334. Resolve with 631, 452, 8, 30, 609, and 299.				
Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.				

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.3 P 27 L 1 # 631
Walker, Dylan Cisco

Comment Type **TR** Comment Status **A** EZ
The PICS in sub-clause 22.3 are empty.

SuggestedRemedy
Populate the PICS entries.

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

Master comment 334. Resolve with 334, 452, 8, 30, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

CI 22 SC 22.3 P 27 L 1 # 452
Jones, Peter Cisco

Comment Type **TR** Comment Status **A** EZ
22.3 PICS is a place holder

SuggestedRemedy
Complete this section as edit instructions from 22.8 (802.3-2015) considering text changes

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

Master comment 334. Resolve with 334, 631, 30, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

Editor's note: Clause numbering corrected by comment 608.

CI 22 SC 22.3.2.1 P 27 L 20 # 28
Anslow, Pete Ciena

Comment Type **E** Comment Status **A** EZ
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.

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

Replace the existing first column headers and the notes with the first column headers and the notes from the base standard.

Editor's note: Clause numbering corrected by comment 608.

CI 22 SC 22.3.2.2 P 27 L 35 # 662
Thompson, Geoff GraCaSI S.A.

Comment Type **E** Comment Status **A** EZ
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.

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

Master comment 29. Resolve with 662.

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places in clause 22.3.2.2.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.3.2.2 P 27 L 35 # 29
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

Master comment 29. Resolve with 662.

CI 22 SC 22.3.3 P 28 L # 299
KIM, YONG NIO

Comment Type TR Comment Status A EZ

PICs tables are blank. Draft is not complete.

SuggestedRemedy

Please complete the PICS table.

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 8, 30, and 609.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

CI 22 SC 22.3.3 P 28 L 1 # 30
Anslow, Pete Ciena

Comment Type ER Comment Status A EZ

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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 8, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

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

Comment Type ER Comment Status A EZ

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 30, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

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

Comment Type E Comment Status A EZ

Containment is 30.2.3

SuggestedRemedy

Change heading to "30.2.3 Containment"

Response Response Status C

ACCEPT.

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

Comment Type ER Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change editing instruction to read: "Replace Figure 30-3 to add oPLCA as follows:"

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 30
SC 30.2.1

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Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.2.1 P 30 L 8 # 433
Wienckowski, Natalie General Motors
Comment Type T Comment Status A EZ
OAM 30.3.3 box was not removed from Figure 30-3
SuggestedRemedy
Remove OAM box from Figure 30-3.
Response Response Status C
ACCEPT.
Editor's note: Jon Lewis to implement.

CI 30 SC 30.2.1 P 30 L 25 # 9
Hajduczenia, Marek Charter
Comment Type E Comment Status A EZ
Extra symbol in oResourceTypeID block. Extra full stop in oEXTENSION block
SuggestedRemedy
Remove garbage from referenced blocks
Response Response Status C
ACCEPT IN PRINCIPLE.
Master comment 9. Resolve with 453 and 300.
Delete extra symbol in oResourceTypeID block. Delete extra full stop in oEXTENSION block.

CI 30 SC 30.2.1 P 30 L 25 # 301
KIM, YONG NIO
Comment Type TR Comment Status A Management
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.
Response Response Status W
ACCEPT IN PRINCIPLE.
Move oPLCA under oPHYentity in Figure 30-3
Jon Lewis to implement change.

CI 30 SC 30.2.1 P 30 L 25 # 453
Jones, Peter Cisco
Comment Type E Comment Status A EZ
What's the | underneath oResourceTypeID
SuggestedRemedy
Remove
Response Response Status C
ACCEPT IN PRINCIPLE.
Master comment 9. Resolve with 9 and 300.

CI 30 SC 30.2.1 P 30 L 26 # 300
KIM, YONG NIO
Comment Type ER Comment Status A EZ
oResourceTypeID has erroneous character that resembles block graphic rectangle.
SuggestedRemedy
Please delete the charactyer.
Response Response Status C
ACCEPT.
Master comment 9. Resolve with 9 and 453.

CI 30 SC 30.2.1 P 30 L 26 # 300
KIM, YONG NIO
Comment Type ER Comment Status A EZ
oResourceTypeID has erroneous character that resembles block graphic rectangle.
SuggestedRemedy
Please delete the charactyer.
Response Response Status C
ACCEPT.
Master comment 9. Resolve with 9 and 453.
Delete extra symbol in oResourceTypeID block. Delete extra full stop in oEXTENSION block.

CI 30 SC 30.2.1 P 30 L 51 # 454
Jones, Peter Cisco
Comment Type T Comment Status A EZ
why isn't PLCA green like the others
SuggestedRemedy
fix if needed
Response Response Status C
ACCEPT IN PRINCIPLE.
Format text "30.3.9" under oPLCA on line 26 as an external reference (should be green).

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.2.2.1 P 30 L # 302
KIM, YONG NIO

Comment Type **TR** Comment Status **A** Management
oPLCA would need an entry in CL30.2.2.1. Otherwise the draft is incomplete.

SuggestedRemedy
Please fix it.

Response Response Status **W**
ACCEPT IN PRINCIPLE.

Bring 30.2.2.1 into the draft
Add the following:

"Insert oPLCA after the description of oPD as follows:

oPLCA If implemented, oPLCA is contained within oPHYEntity. The oPLCA managed object class provides the management controls necessary to allow an instance of a PLCA RS to be managed."

CI 30 SC 30.2.5 P 30 L # 303
KIM, YONG NIO

Comment Type **ER** Comment Status **A** Management
Table 30-1a would need an entry for oPLCA under DTE. Otherwise the draft is incomplete.

SuggestedRemedy
Please fix it.

Response Response Status **W**
ACCEPT IN PRINCIPLE.

Accomodated by #32.

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

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

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

Add editing instruction, with editorial license, that describes changes to rows and column.

Add subclause 30.2.5 into the draft and add attributes from 30.3.9 as new rows in Table 30-1c. Editorial license to add new DTE column called "PLCA (optional)".

Editorial license to add Editor's note (to be removed before publication) that explains specifically what was done in the revised table and refers to comments #303 and #32 received on d2p0.

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

Comment Type **E** Comment Status **A** EZ
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":"

Response Response Status **C**
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 **SC 30.3.2.1.3** **P 31** **L 13** # **444**
Wienckowski, Natalie General Motors

Comment Type T **Comment Status A** **Management**
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.

Response **Response Status C**
ACCEPT.

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

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

Response **Response Status C**
ACCEPT.

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

Comment Type E **Comment Status A** **EZ**
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:"

Response **Response Status C**
ACCEPT.

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

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

Response **Response Status C**
ACCEPT.

CI 30 **SC 30.3.9.1.1** **P 31** **L 28** # **591**
Healey, Adam Broadcom Inc.

Comment Type E **Comment Status A** **EZ**
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.

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

Apply the formatting for the enumerations in 30.3.2.1.7 of 802.3-2018 to the enumerations in 30.3.9.1.1 and 30.3.9.2.2.

CI 30 **SC 30.3.9.1.1** **P 31** **L 32** # **37**
Anslow, Pete Ciena

Comment Type E **Comment Status A** **EZ**
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.

Response **Response Status C**
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.1.1 P 31 L 33 # 305
KIM, YONG NIO

Comment Type TR Comment Status A Management

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 intended. Current text does not work (not clear).

SuggestedRemedy

Please fix it.

Response Response Status W

ACCEPT IN PRINCIPLE.

Replace "A disabled PLCA utilizes Clause 22 reconciliation sublayer without modification. An enabled PLCA modifies the behavior of the reconciliation sublayer per Clause 148."

with
"When PLCA is enabled, the reconciliation sublayer is as defined by Clause 148, otherwise, Clause 148 behavior is not enabled."

(note this should not say "clause 22 behavior is performed" because it needs also to apply to non-clause 22 and non-clause 148 situations...)

CI 30 SC 30.3.9.1.1 P 31 L 33 # 593
Healey, Adam Broadcom Inc.

Comment Type E Comment Status A EZ

"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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 593. Resolve with 455.

Make "Clause 22" (line 32) and "Clause 148" (line 34) active cross-references.

Search for Clause 22 and Clause 148 and ensure that they are active cross-references.

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

Comment Type E Comment Status R EZ

[EASY] .;

SuggestedRemedy

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

Response Response Status C

REJECT.

"," at the end of the last enumeration is the correct formatting style. See clause 30.3.8 of the 802.3-2018 document for examples.

CI 30 SC 30.3.9.2 P 31 L 37 # 455
Jones, Peter Cisco

Comment Type TR Comment Status A EZ

All BEHAVIOUR DEFINED descriptions should have cross references added

SuggestedRemedy

Add them

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 593. Resolve with 593.

Make "Clause 22" (line 32) and "Clause 148" (line 34) active cross-references.

CI 30 SC 30.3.9.2.1 P 31 L 43 # 306
KIM, YONG NIO

Comment Type TR Comment Status A Management

"Same as aPLCAAdminState" is not appropriate.

SuggestedRemedy

Please be verbose.

Response Response Status W

ACCEPT IN PRINCIPLE.

Replace, "Same as aPLCAAdminState"

with, "An ENUMERATED VALUE that has the following entries: disabled enabled"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.2.1 P 31 L 47 # 307
KIM, YONG NIO

Comment Type TR Comment Status A Management

"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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Replace, "Setting PLCA to the enabled state"

with, "Setting acPLCAAdminControl to the enabled state"

CI 30 SC 30.3.9.2.1 P 31 L 49 # 355
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ

Period missing after sentence on line 49.

SuggestedRemedy

Add period.

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 355. Resolve with 166.

Replace ";" with ";;"

CI 30 SC 30.3.9.2.1 P 31 L 49 # 595
Healey, Adam Broadcom Inc.

Comment Type T Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 595. Resolve with 308.

Replace "Clause 147 PLCA" with "Clause 148 PLCA" and add a cross-reference to clause 148.

CI 30 SC 30.3.9.2.1 P 31 L 50 # 38
Anslow, Pete Ciena

Comment Type E Comment Status A PLCA

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.

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.2.1 P 31 L 50 # 594
Healey, Adam Broadcom Inc.

Comment Type E Comment Status A Management

"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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change both occurrences of "ability bit 3.2292.13" to "ability bit 3.2292.13 defined in 45.2.3.58f.1", where 45.2.3.58f.1 is a reference

Change both occurrences of "enable bit 3.2291.13" to "enable bit 3.2291.13 defined in 45.2.3.58e.3", where 45.2.3.58e.3 is a reference

Change "of a Reconciliation Sublayer." to "of a Reconciliation Sublayer through the bit 3.2291.12 defined in 45.2.3.58e.4", where 45.2.3.58e.4 is a reference

Change "aPLCAMaxID is" to "aPLCAMaxID, implemented by 3.2289.15:8 defined in 45.2.3.58c.1, is", where 45.2.3.58c.1 is a reference

Change "aPLCALocalNodeID is" to "aPLCALocalNodeID, implemented by 3.2289.7:0 defined in 45.2.3.58c.2, is", where 45.2.3.58c.2 is a reference

Change "aPLCATransmitOpportunityTimer is" to "aPLCATransmitOpportunityTimer, implemented by 3.2290 defined in 45.2.3.58d, is", where 45.2.3.58d is a reference

Editorial license to update these references after comment #315 on the MDIO registers will have been implemented

Inform the commenter that "30.3.9.2.2 acPLCAReset" already exists

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

Comment Type E Comment Status A EZ

[EASY] ;

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 355. Resolve with 355.

Replace ";" with ".,"

CI 30 SC 30.3.9.2.2 P 31 L 52 # 308
KIM, YONG NIO

Comment Type TR Comment Status A PLCA

"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

Response Response Status W

ACCEPT IN PRINCIPLE.

Accoomodate by #595.

CI 30 SC 30.3.9.2.2 P 32 L 5 # 39
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove hyphention from "acPLCAReset"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.2.2 P 32 L 8 # 40
Anslow, Pete Ciena

Comment Type E Comment Status A PLCA

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.

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status R EZ

[EASY] .;

SuggestedRemedy

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

Response Response Status C

REJECT.

";" at the end of the last enumeration is the correct formatting style. See clause 30.3.8 of the 802.3-2018 document for examples.

CI 30 SC 30.3.9.2.3 P 32 L 11 # 528
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A PLCA

[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"

Response Response Status C

ACCEPT.

CI 30 SC 30.3.9.2.3 P 32 L 11 # 309
KIM, YONG NIO

Comment Type TR Comment Status A Big Ticket Item PLCA

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)

Response Response Status W

ACCEPT IN PRINCIPLE.

Change "INTEGER" at 32/16 to "INTEGER VALUE in the following range (inclusive): 0-255"

Change "INTEGER" at 32/27 to "Same as aPLCAMaxID"

Add the following value after "The value of aPLCALocalNodeID is assigned to define the ID of the local node on the PLCA network.",

"Value must be in the range of [0, aPLCAMaxID] (inclusive)."

CI 30 SC 30.3.9.2.3 P 32 L 19 # 456
Jones, Peter Cisco

Comment Type ER Comment Status A EZ

Replace "The value of aPLCAMaxID" with "This value"

SuggestedRemedy

Make suggested change

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace, "The value of aPLCAMaxID"

with, "The value"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 30 **SC 30.3.9.2.4** **P 32** **L 22** # **310**
KIM, YONG NIO

Comment Type E **Comment Status A** *Editorial*
Local Node ID -- is there any other kind of node apart from the "local"? If not, how about just NodeID

SuggestedRemedy
Please do so.

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

No change to draft needed.

Editor's note: There are other types of ID. Hence "Local Node" modifies ID to distinguish it from cur_ID which is a counter in clause 148 state diagrams.

Cl 30 **SC 30.3.9.2.4** **P 32** **L 22** # **311**
KIM, YONG NIO

Comment Type TR **Comment Status A** *Management*
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.

Response **Response Status W**
ACCEPT IN PRINCIPLE.

Accommodated by #598 which specifies locally unique NodeID within a collision domain.

Description or requirements of assignment of parameters in the management entity is beyond the scope of this standard.

Cl 30 **SC 30.3.9.2.4** **P 32** **L 30** # **457**
Jones, Peter Cisco

Comment Type TR **Comment Status A** *EZ*
Replace "The value of aPLCALocalNodeID" with "This value"

SuggestedRemedy
Make suggested change

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

Replace, "The value of aPLCALocalNodeID"
with, "The value"

Cl 30 **SC 30.3.9.2.5** **P 32** **L 41** # **312**
KIM, YONG NIO

Comment Type TR **Comment Status A** *Management*
Is aPLCATransmitOpportunityTimer object get or get-set? What are the allowed ranges of values, and what is the unit for these values. This object definition is incomplete.

SuggestedRemedy
Please add details and add appropriate references.

Response **Response Status W**
ACCEPT IN PRINCIPLE.

Insert "aPLCATransmitOpportunity maps to the duration of the timer TO_TIMER. The value of aPLCATransmitOpportunity is an integer number between 1 and 65535, expressed as a duration of TO_TIMER in bit times. See 148.4.5.4 for further information." after "transmit opportunities." on page 32, line 42.

Cl 30 **SC 30.3.9.2.5** **P 32** **L 41** # **458**
Jones, Peter Cisco

Comment Type TR **Comment Status A** *EZ*
Replace "The value of PLCATransmitOpportunityTimer" with "This value"

SuggestedRemedy
Make suggested change

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

Replace "The value of PLCATransmitOpportunityTimer"
with "The value"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.2.5. P 32 L 41 # 370
Matheus, Kirsten BMW AG

Comment Type E Comment Status A Management

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Accomodated by #312.

CI 30 SC 30.5.1.1.2 P 33 L 9 # 41
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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":."

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 41. Resolve with 445.

Replace, "Insert the following new entries in APPROPRIATE SYNTAX after the entry for "1000BASE-T":."

with, "Insert the following new entries in the APPROPRIATE SYNTAX section of 30.5.1.1.2 after the entry for "10BASE-TS":."

CI 30 SC 30.5.1.1.2 P 33 L 9 # 445
Wienckowski, Natalie General Motors

Comment Type E Comment Status A EZ

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".

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 41. Resolve with 41.

Replace, "Insert the following new entries in APPROPRIATE SYNTAX after the entry for "1000BASE-T":."

with, "Insert the following new entries in the APPROPRIATE SYNTAX section of 30.5.1.1.2 after the entry for "10BASE-TS":."

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

Comment Type E Comment Status A Editorial

remove the word "cable"

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace, "Single balanced pair copper cable PHY"

with, "Single balanced pair PHY"

in two locations (lines 11 and 12).

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 30 **SC 30.5.1.1.4** **P 33** **L 15** # **42**
 Anslow, Pete Ciena

Comment Type E **Comment Status A** **EZ**
 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:"

Response **Response Status C**
 ACCEPT.

Cl 30 **SC 30.5.1.1.4** **P 33** **L 47** # **313**
 KIM, YONG NIO

Comment Type TR **Comment Status R** **Big Ticket Item AUI**
 If 10BASE-T1S PHY supports CSMA/CD, then it should operate similarly to 10BASE5, etc WRT to MAU not available/available as stated in second paragraph.

SuggestedRemedy
 Please add appropriate references of media loopback. Current references are only to AUI

Response **Response Status W**
 REJECT.

Consensus not to change. Refer to motion 9 from Unconfirmed_minutes_3cg_0918.pdf

Cl 30 **SC 30.5.1.1.6** **P 33** **L** # **314**
 KIM, YONG NIO

Comment Type TR **Comment Status A** **Jabber**
 Jabber function that protets mixing segment is missing.

SuggestedRemedy
 Please add in CL147 and also here for its mgmt.

Response **Response Status W**
 ACCEPT IN PRINCIPLE.

Accomodated by #534

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

Comment Type E **Comment Status A** **EZ**
 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":"

Response **Response Status C**
 ACCEPT.

Cl 45 **SC 45** **P 35** **L 1** # **459**
 Jones, Peter Cisco

Comment Type TR **Comment Status R** **Registers**
 Lots of missing forward references, e.g., 45.2.1.174a.5 Low-power (1.2294.11)

SuggestedRemedy
 Add references into new clauses

Response **Response Status W**
 REJECT.

Commenter provides insufficient remedy. Text of referenced 45.2.1.174a.5 is nearly identical to text describing management bits of other BASE-T1 PHYs, which do not have forward links to the PHY clauses.

Cl 45 **SC 45.2.1** **P 35** **L 11** # **472**
 Jones, Peter Cisco

Comment Type ER **Comment Status A** **EZ**
 Why is there a gap between PMA status and test mode control

SuggestedRemedy
 Fix if needed

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

Master comment 472. Consider with 471.

Move three addresses, starting with 10BASE-T1L test mode control, to 1.2296, 1.2297, and 1.2298. Change the reserved address from "1.2301 through 1.2302" to "1.2299 through 1.2302".

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1 P 35 L 26 # 471
 Jones, Peter Cisco
 Comment Type ER Comment Status A EZ
 Table 45-3 - different style than 1.2296 and 1.2296. Be consistent
 SuggestedRemedy
 Fix style
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 472. Consider with 472.
 Move three addresses, starting with 10BASE-T1L test mode control, to 1.2296, 1.2297, and 1.2298. Change the reserved address from "1.2301 through 1.2302" to "1.2299 through 1.2302".

CI 45 SC 45.2.1.17 P 37 L 27 # 610
 Bains, Amrik Cisco
 Comment Type TR Comment Status D Registers
 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 Z
 REJECT.
 This comment was WITHDRAWN by the commenter.
 This does not relate to low power idle. "Low power" is the same term used in nearly all 802.3 PHYs for this capability with this same description. It is found in 1.1.1 (45.2.1.5) as well as in the BASE-T1 registers at 45.2.1.187.3, 45.2.1.188.4, and also in 3.0.11 (45.2.3.1.3) and numerous other places. Changing the name for the same function with the same description would add confusion.

CI 45 SC 45.2.1.173 P 35 L 51 # 45
 Anslow, Pete Ciena
 Comment Type E Comment Status A EZ
 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).
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Master comment 424. Resolve with 424.
 Replace, "45.2.1.173 BASE-T1" with "45.2.1.185 BASE-T1" on line 51.
 Replace, "Change the row for 1.2100.3:0 in Table 45-141" with "Change the row for 1.2100.3:0 in Table 45-149" on line 53.
 Replace, "Table 45-141-BASE-T1" with "Table 45-149-BASE-T1" on page 36, line 1.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45	SC 45.2.1.173	P 35	L 52	# 424
Wienckowski, Natalie		General Motors		
Comment Type T	Comment Status A		EZ	
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.				
Response	Response Status C			
ACCEPT IN PRINCIPLE.				
Master comment 424. Resolve with 45 and 47.				
Replace, "45.2.1.173 BASE-T1" with "45.2.1.185 BASE-T1" on line 51.				
Replace, "Change the row for 1.2100.3:0 in Table 45-141" with "Change the row for 1.2100.3:0 in Table 45-149" on line 53.				
Replace, "Table 45-141-BASE-T1" with "Table 45-149-BASE-T1" on page 36, line 1.				
Change the editing instruction on page 36, line 15 to "Insert 45.2.1.186a through 45.2.1.186f after 45.2.1.186 as follows:"				
Change the inserted clauses from 45.2.1.174a through 45.2.1.174f to 45.2.1.186a through 45.2.1.186f				
Change the inserted tables from Table 45-142a through Table 45-142f to Table 45-150a through Table 45-150f				

CI 45	SC 45.2.1.174a	P 36	L 15	# 47
Anslow, Pete		Ciena		
Comment Type E	Comment Status A		EZ	
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				
Response	Response Status C			
ACCEPT IN PRINCIPLE.				
Master comment 424. Resolve with 424.				
Change the editing instruction on page 36, line 15 to "Insert 45.2.1.186a through 45.2.1.186f after 45.2.1.186 as follows:"				
Change the inserted clauses from 45.2.1.174a through 45.2.1.174f to 45.2.1.186a through 45.2.1.186f				
Change the inserted tables from Table 45-142a through Table 45-142f to Table 45-150a through Table 45-150f				

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174a P 36 L 29 # 705
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status A Registers

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 poision 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)

Response Response Status C

ACCEPT IN PRINCIPLE.

Change 1.2294.13 to Reserved Value always zero, RO

Insert new bottom row of Table 45-142a for 1.2294.0 Loopback | 1 = Enable loopback mode 0= Disable loopback mode | R/W

Adjust reserved row (to 1.2294.9:1)

Move 45.2.1.174a.3 Loopback (1.2294.13) subclause after 45.2.1.174a.6 EEE functionality and make it 1.2294.0, and change references to 1.2294.13 to be 1.2294.0 (3 instances) in that paragraph.

Change MM164 and MM165 PICS (P51) to 1.2294.0

Change reference to 1.2294.13 in 146.5.7 PMA Local Loopback from 1.2294.13 to 1.2294.0 (add cross ref),

Change reference to 1.2294.13 in Table 146-4 to 1.2294.0

Change reference to 1.2294.13 in CI 146 PICS PMAE23 (P142)

CI 45 SC 45.2.1.174a P 36 L 34 # 316
KIM, YONG NIO

Comment Type ER Comment Status R Registers

Low power ability is missing perhaps, before it could be controlled?

SuggestedRemedy

Is low-power mode a mandatory requirement? If so, provide a reference.

Response Response Status W

REJECT.

Low power ability corresponding to the control bit at 45.2.1.174a is found at bit 1.2295.8 in Table 45-142b.

CI 45 SC 45.2.1.174a P 36 L 36 # 317
KIM, YONG NIO

Comment Type TR Comment Status A EEE

EEE capability is optional. Clarify what happens if this bit = 1 when the corresponding ability is 0

SuggestedRemedy

Clarify.

Response Response Status W

ACCEPT IN PRINCIPLE.

Accomodated by #719.

CI 45 SC 45.2.1.174a.1 P 36 L 44 # 335
Yseboodt, Lennart Signify

Comment Type ER Comment Status A EZ

"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]

Response Response Status W

ACCEPT IN PRINCIPLE.

Globally search for "to a one" and replace with "to one". Globally search for "to a zero" and replace with "to zero".

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174a.3 P 37 L 14 # 634
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status A Registers

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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Replace the contents of clause 45.2.1.174a.3 Loopback (1.2294.13) with, "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 with the MDI open and not connected to media."

CI 45 SC 45.2.1.174a.5 P 37 L 27 # 460
Jones, Peter Cisco

Comment Type TR Comment Status D Registers

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 Z

REJECT.

This comment was WITHDRAWN by the commenter.

This does not relate to low power idle. "Low power" is the same term used in nearly all 802.3 PHYs for this capability with this same description. It is found in 1.1.1 (45.2.1.5) as well as in the BASE-T1 registers at 45.2.1.187.3, 45.2.1.188.4, and also in 3.0.11 (45.2.3.1.3) and numerous other places. Changing the name for the same function with the same description would add confusion.

CI 45 SC 45.2.1.174a.5 P 37 L 30 # 269
KIM, YONG NIO

Comment Type TR Comment Status R Registers

"This action maury 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.

Response Response Status W

REJECT.

This exact same language is found 6 different times in connection with the low power mode of other 802.3 phys in IEEE Std 802.3-2018.

CI 45 SC 45.2.1.174a.5 P 37 L 32 # 270
KIM, YONG NIO

Comment Type TR Comment Status R Registers

"The behavior of the. shjould not be relied upon" is not appropriate. 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.

Response Response Status W

REJECT.

This exact same language is found 6 different times in connection with the low power mode of other 802.3 phys in IEEE Std 802.3-2018.

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

Comment Type E Comment Status A EZ

[EASY] . 10BASE-T1L PMD ...

SuggestedRemedy

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

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45	SC 45.2.1.174a.6	P 37	L 42	# 719	
McClellan, Brett		Marvell			
Comment Type	TR	Comment Status	A	EEE	
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.					
Response		Response Status	C		
ACCEPT IN PRINCIPLE.					
Replace, "45.2.1.174a.6 EEE functionality(1.2294.10) When bit 1.2294.10 is set to one, the 10BASE-T1L PHY shall enable EEE functionality. When bit 1.2294.10 is set to zero, the 10BASE-T1L PHY shall disable EEE functionality. The default value of bit 1.2294.10 is zero." with, "45.2.1.174a.6 EEE config value (1.2294.10) Bit 1.2294.10 is used to enable EEE functionality when Auto-Negotiation enable bit 7.512.12 is set to zero or if Auto-Negotiation is not implemented. If bit 1.2294.10 is set to one, the PHY shall operate with EEE enabled. If bit 1.2294.10 is set to zero, the PHY shall operate with EEE disabled. This bit shall be ignored when the Auto-Negotiation enable bit 7.512.12 is set to one." "					
page 109 line 50 Delete "If MDIO is implemented, it reflects bit 1.2294.10 as described in 45.2.1.174a.4."					

CI 45	SC 45.2.1.174b	P 38	L 15	# 706	
Kabra, Lokesh		Synopsys Inc			
Comment Type	T	Comment Status	A	Registers	
"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)					
Response		Response Status	C		
ACCEPT IN PRINCIPLE.					
Copy the content for row "1.2295.8" into the Reserved row "1.2295.11" and delete row "1.2295.8". Replace the Reserved row "1.2295.7:3" with "1.2295.8:3". Change "45.2.1.174b.5 Low-power ability (1.2295.8)" to 45.2.1.174b.5 Low-power ability (1.2295.11), change 2 occurrences or "(1.2295.8)" in the clause to "(1.2295.11)" and move to after 45.2.1.174b.2 2.4 Vpp operating mode ability (1.2295.12).					
CI 45	SC 45.2.1.174c	P 40	L 3	# 635	
Thompson, Geoff		GraCaSI S.A.			
Comment Type	TR	Comment Status	A	Registers	
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.					
Response		Response Status	W		
ACCEPT IN PRINCIPLE.					
No change to draft required.					
Table 45-142c clearly shows that 0 0 0 for bits 1.2298.15:13 are Normal (non-test) operation. And 45.2.1.174c.1 clearly states, "The default value for bits 1.2298.15:13 is zero."					

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45	SC 45.2.1.174d	P 40	L 39	# 708
Kabra, Lokesh		Synopsys Inc		
Comment Type	T	Comment Status	A	Registers
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 poision 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)				
Response		Response Status	C	
ACCEPT IN PRINCIPLE.				
Change 1.2299.13 to Reserved Value always zero, RO				
Insert new bottom row of Table 45-142d for 1.2290.0 Loopback 1 = Enable loopback mode 0= Disable loopback mode R/W				
Adjust reserved row (to 1.2299.9:1)				
Move 45.2.1.174d.3 Loopback (1.2299.13) subclause after 45.2.1.174d.5 Multidrop mode and make it 1.2290.0, and change references to 1.2299.13 to be 1.2299.0 (3 instances) in that paragraph.				
Change MM187, MM188, MM189, and MM PICS (page 53) to 1.2299.0				
Change reference to 1.2299.13 in 147.5.4.6 Alien crosstalk noise rejection (page 165, line 50) from 1.2299.13 to 1.2299.0 (add cross ref)				

CI 45	SC 45.2.1.174d	P 40	L 44	# 268
KIM, YONG		NIO		
Comment Type	TR	Comment Status	A	Mixing Segment
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.				
Response		Response Status	W	
ACCEPT IN PRINCIPLE.				
Add "(see Clause 147)" after "multidrop mode over a mixing segment network" in paragraph 45.2.1.174d.5 at P41 L51.				

CI 45	SC 45.2.1.174d	P 40	L 44	# 707
Kabra, Lokesh		Synopsys Inc		
Comment Type	E	Comment Status	A	EZ
net-work				
SuggestedRemedy				
network				
Response		Response Status	C	
ACCEPT IN PRINCIPLE.				
Remove breaking hypen.				

CI 45	SC 45.2.1.174d.1	P 41	L 3	# 356
Yseboodt, Lennart		Signify		
Comment Type	E	Comment Status	A	EZ
"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."				
Response		Response Status	C	
ACCEPT IN PRINCIPLE.				
Replace, "by setting bit 1.2299.15 to a one" with, "by setting bit 1.2299.15 to one".				

CI 45	SC 45.2.1.174d.1	P 41	L 14	# 462
Jones, Peter		Cisco		
Comment Type	TR	Comment Status	A	Editorial
Why does this say "may"?				
SuggestedRemedy				
Change to "Interruption to data communication is expected."				
Response		Response Status	C	
ACCEPT IN PRINCIPLE.				
Consider with 169.				
Replace, "This operation may interrupt data communication."				
with, "This operation interrupts data communication."				

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174d.4 P 41 L 34 # 461
Jones, Peter Cisco

Comment Type TR Comment Status D Registers
How does this relate to LPI low-power-idle mode?

SuggestedRemedy

Clairfy "Low-power" vs "low-power-idle".

Proposed Response Response Status Z
REJECT.

This comment was WITHDRAWN by the commenter.

This does not relate to low power idle. "Low power" is the same term used in nearly all 802.3 PHYs for this capability with this same description. It is found in 1.1.1 (45.2.1.5) as well as in the BASE-T1 registers at 45.2.1.187.3, 45.2.1.188.4, and also in 3.0.11 (45.2.3.1.3) and numerous other places. Changing the name for the same function with the same description would add confusion.

CI 45 SC 45.2.1.174d.4 P 41 L 41 # 344
Yseboodt, Lennart Signify

Comment Type TR Comment Status A Editorial
"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."

Response Response Status W
ACCEPT.

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

Comment Type T Comment Status A Big Ticket Item Power
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.

Response Response Status C
ACCEPT IN PRINCIPLE.

Replace,

"The data path of the 10BASE-T1S PMD, depending on type and temperature, may take many seconds to run at optimum error ratio after exiting from reset or low-power mode."

with,

"The time from low-power mode to full operation is implementation specific."

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

Comment Type E Comment Status R Editorial
[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.)

Response Response Status C
REJECT.

Consider with 462.

CI 45 SC 45.2.1.174d.5 P 41 L 53 # 357
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ
"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".

Response Response Status C
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174e P 42 L 17 # 709
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status A Registers

"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)

Response Response Status C

ACCEPT IN PRINCIPLE.

This remedy assumes that the resolution to #710 has been implemented.

Delete row for Bit 1.2299.11 from Table 45-142d and replace reserved row bits "1.2299.9:0" with "1.2299.11:0".

Insert row for
1.2300.11 Low-power
1 = Low-power mode
0 = Normal operation
R/W

into Table 45-142e and replace reserved row bits "1.2300.12:10" with 1.2300.12".

Move 45.2.1.174d.4 Low-power (1.2299.11) subclause after 45.2.1.174e.1 10BASE-T1S loopback ability (1.2300.13) and change references to 1.2299.11 to be 1.2300.11 (3 instances) in that paragraph and change reference to 1.2299.11 to be 1.2300.11 in the clause header.

Replace, " 1.2299.11" with "1.2300.11" on page 42, line 48.

CI 45 SC 45.2.1.174e P 42 L 20 # 710
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status A Registers

"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 when software wants to mask setting of Multidrop with "Multidrop ability" read from this register

SuggestedRemedy

Change mapping to bit "1.2300.10" globally (multiple places)

Response Response Status C

ACCEPT IN PRINCIPLE.

Delete row for Bit 1.2299.10 from Table 45-142d and replace reserved row bits "1.2299.9:0" with "1.2299.10:0".

Insert row for
1.2300.10 Multidrop mode
1 = Enable operation over mixing segment net-work
0 = Disable operation over mixing segment network
R/W

into Table 45-142e and replace reserved row bits "1.2300.12:10" with 1.2300.12:11".

Move 45.2.1.174d.5 Multidrop mode (1.2299.10) subclause after 45.2.1.174e.1 10BASE-T1S loopback ability (1.2300.13) and change references to 1.2299.10 to be 1.2300.10 (3 instances) in that paragraph and change reference to 1.2299.10 to be 1.2300.10 in the clause header.

Replace "1.2299.10" with "1.2300.10" on page 43, line 2 (2 locations).

CI 45 SC 45.2.1.174e P 42 L 21 # 271
KIM, YONG NIO

Comment Type TR Comment Status A Registers

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 appropriate.

Response Response Status W

ACCEPT IN PRINCIPLE.

Add "(see Clause 147)" after "multidrop mode over a mixing segment network" in paragraph 45.2.1.174e.4 at P42 L52.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.185.2 P 36 L 13 # 434
Wienckowski, Natalie General Motors

Comment Type T Comment Status A AutoNeg
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.

Response Response Status C
ACCEPT IN PRINCIPLE.

Add after Table 45-141 (renumbered to Table 45-149 by comment 424),

Change the paragraph for bits 1.2100.3:0 as follows: <formatted as Editing Instruction>

45.2.1.185.2 Type selection (1.2100.3:0)

Bits 1.2100.3:0 are used to set the mode of operation when Auto-Negotiation enable bit 7.512.12 is set to zero, or if Auto-Negotiation is not implemented. <start underline format> 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 10BASE-T1S. <stop underline format> When these bits are set to 0000, the mode of operation is 100BASE-T1. When these bits are set to 0001, the mode of operation is 1000BASE-T1. These bits shall be ignored when the Auto-Negotiation enable bit 7.512.12 is set to one.

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

Comment Type T Comment Status A AutoNeg
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.

Response Response Status C
ACCEPT IN PRINCIPLE.

Accommodated by 434.

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

Comment Type E Comment Status A EZ
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

Response Response Status C
ACCEPT IN PRINCIPLE.

Change to 10BASE-T1L PCS status on line 14 and 10BASE-T1S PCS status on line 21

CI 45 SC 45.2.3 P 44 L 22 # 554
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D PLCA
[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 Z
REJECT.

This comment was WITHDRAWN by the commenter.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.3 P 44 L 22 # 548
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber
[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

Response Response Status C
ACCEPT IN PRINCIPLE.

Accommodated by #534

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

Comment Type E Comment Status A EZ
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

Response Response Status C
ACCEPT.

CI 45 SC 45.2.3.58a P 44 L 28 # 435
Wienckowski, Natalie General Motors

Comment Type E Comment Status A EZ
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.

Response Response Status C
ACCEPT.

CI 45 SC 45.2.3.58a P 45 L 12 # 272
KIM, YONG NIO

Comment Type TR Comment Status R Registers
"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.

Response Response Status W
REJECT.

The text "PCS shall be placed..." (referring to loopback modes) occurs 10 times in IEEE Std 802.3-2018 and is the normal way of referring to this operation. "shall accept data on the transmit path... And return it on the receive path" occurs 19 times to further describe loopback.

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

Comment Type E Comment Status A EZ
RO = Read only

SuggestedRemedy

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

Response Response Status C
ACCEPT IN PRINCIPLE.

Replace, "RO = Read only" with "RO = Read only, LH = Latching high, LL = Latching low"

CI 45 SC 45.2.3.58c P 47 L 1 # 49
Anslow, Pete Ciena

Comment Type E Comment Status A EZ
In the title of 45.2.3.58c and the title of Table 45-220c "10BASE-T1S-PLCA" should be "10BASE-T1S PLCA"

SuggestedRemedy

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

Response Response Status C
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.3.58c P 47 L 9 # 371
Matheus, Kirsten BMW AG

Comment Type TR Comment Status A Editorial

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"

Response Response Status C

ACCEPT.

CI 45 SC 45.2.3.58c P 47 L 11 # 372
Matheus, Kirsten BMW AG

Comment Type E Comment Status R PLCA

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

Response Response Status C

REJECT.

At the current time, Clause 148 only supports one ID per PHY.

Straw Poll:

I believe further investigation of multiple TO's per node is desirable:

Y:18

N:0

CI 45 SC 45.2.3.58c P 47 L 19 # 274
KIM, YONG NIO

Comment Type TR Comment Status R PLCA

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 appropriate 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.

Response Response Status W

REJECT.

PLCA does not have a maximum size specified in Clause 148.

CI 45 SC 45.2.3.58c P 47 L 25 # 273
KIM, YONG NIO

Comment Type TR Comment Status A PLCA

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 appropriate part of CL147 that describes NodeID=255 default operation, or delete, or add other clarifications needed.

Response Response Status W

ACCEPT IN PRINCIPLE.

Replace "The default value of bits 3.2289.7:0 is 255." with, "The configurarion of local_nodeID is beyond the scope of this standard. When PLCA operation is disabled these values have no effect."

CI 45 SC 45.2.3.58c P 47 L 27 # 50
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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"

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.3.58c.1 P 47 L 18 # 527
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A PLCA

[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"

Response Response Status C

ACCEPT.

CI 45 SC 45.2.3.58d.1 P 47 L 43 # 377
Matheus, Kirsten BMW AG

Comment Type E Comment Status A Management

See comment 9. Should be aligned with it

SuggestedRemedy

Align with remedy of comment 9

Response Response Status C

ACCEPT IN PRINCIPLE.

Accommodated by #312.

CI 45 SC 45.2.3.58d.1 P 47 L 44 # 275
KIM, YONG NIO

Comment Type TR Comment Status R PLCA

Default value of 20 bit times seems excessive for system that initialize 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.

Response Response Status W

REJECT.

Commenter does not provide sufficient remedy. The default value for PLCA TO_TIMER was considered by the Task Force.

CI 45 SC 45.2.3.58e.3 P 48 L 45 # 276
KIM, YONG NIO

Comment Type TR Comment Status A Big Ticket Item PLCA_EN

PLCA is not a part of PCS. Need to move this bit to appropriate layer (RS) register

SuggestedRemedy

Please do so.

Response Response Status W

ACCEPT IN PRINCIPLE.

Move *all* PLCA related bits to a dedicated subclause / address range in Clause 45. This includes registers to be added after accepting #556.

Implement changes marked with #276 in
http://www.ieee802.org/3/cg/public/Sept2018/beruto_02_CI_45_d2p0_proposed.pdf

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 45 **SC 45.2.3.58e.4** **P 48** **L 50** # **277**
 KIM, YONG NIO

Comment Type **TR** **Comment Status** **A** **Big Ticket Item** *PLCA_EN*
 PLCA is not a part of PCS. Need to move this bit to appropriate layer (RS) register

SuggestedRemedy
 Please do so.

Response **Response Status** **W**
 ACCEPT IN PRINCIPLE.

Move *all* PLCA related bits to a dedicated subclause / address range in Clause 45. This includes registers to be added after accepting #556.

Implement changes marked with #277 in
http://www.ieee802.org/3/cg/public/Sept2018/beruto_02_Cl_45_d2p0_proposed.pdf

Cl 45 **SC 45.2.3.58f.1** **P 49** **L 27** # **278**
 KIM, YONG NIO

Comment Type **TR** **Comment Status** **A** **Big Ticket Item** *PLCA_EN*
 PLCA is not a part of PCS. Need to move this bit to appropriate layer (RS) register

SuggestedRemedy
 Please do so.

Response **Response Status** **W**
 ACCEPT IN PRINCIPLE.

Move *all* PLCA related bits to a dedicated subclause / address range in Clause 45. This includes registers to be added after accepting #556.

Implement changes marked with #278 in
http://www.ieee802.org/3/cg/public/Sept2018/beruto_02_Cl_45_d2p0_proposed.pdf

Cl 45 **SC 45.2.3.58g** **P 49** **L 39** # **549**
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** **Comment Status** **A** **Jabber**
 [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

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

Accomodated by #534

Cl 45 **SC 45.2.3.58h** **P 49** **L 39** # **555**
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** **Comment Status** **D** **PLCA**
 [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** **Z**
 REJECT.

This comment was WITHDRAWN by the commenter.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 45 SC 45.2.3.58c 1 P 47 L 20 # 373
Matheus, Kirsten BMW AG

Comment Type ER Comment Status A Editorial
Not max number of nodes but of Ids

SuggestedRemedy
Exchange "nodes" with "Node IDS"

Response Response Status C
ACCEPT.

Cl 45 SC 45.2.145.2 P 35 L # 315
KIM, YONG NIO

Comment Type TR Comment Status A PLCA
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).

Response Response Status W
ACCEPT IN PRINCIPLE.

Move *all* PLCA related bits to a dedicated subclause / address range in Clause 45. This includes registers to be added after accepting #556.

Implement changes marked with #315 in
http://www.ieee802.org/3/cg/public/Sept2018/beruto_02_Cl_45_d2p0_proposed.pdf

Cl 45 SC 45.5.3.3 P 50 L 8 # 51
Anslow, Pete Ciena

Comment Type E Comment Status A EZ
Most of page 50 is blank.

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

Response Response Status C
ACCEPT.

Cl 45 SC 45.5.3.3 P 51 L 1 # 52
Anslow, Pete Ciena

Comment Type E Comment Status A EZ
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:"

Response Response Status C
ACCEPT.

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

Comment Type E Comment Status A EZ
[EASY] othersie

SuggestedRemedy
otherwise

Response Response Status C
ACCEPT IN PRINCIPLE.

Replace, "othersie" with "otherwise"

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

Comment Type E Comment Status A EZ
[EASY] . disable the transmitter

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

Response Response Status C
ACCEPT IN PRINCIPLE.

Replace, "disable the transmitter" with "disables the transmitter"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.5.3.3 P 52 L 10 # 174
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] 1.2294.11
 SuggestedRemedy
 1.2294.10 (EEE bit is 1.2294.10 instead of 1.2294.11)
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace, "1.2294.11" with "1.2294.10"

CI 45 SC 45.5.3.3 P 52 L 13 # 175
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] 1.2294.11
 SuggestedRemedy
 1.2294.10 (EEE bit is 1.2294.10 instead of 1.2294.11)
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace, "1.2294.11" with "1.2294.10"

CI 45 SC 45.5.3.3 P 52 L 19 # 176
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] othersie
 SuggestedRemedy
 otherwise
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace, "othersie" with "otherwise"

CI 45 SC 45.5.3.3 P 53 L 6 # 177
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] . disable the transmitter
 SuggestedRemedy
 . disables the transmitter (add "s" after disable)
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace, "disable the transmitter" with "disables the transmitter"

CI 45 SC 45.5.3.3 P 53 L 18 # 178
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [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)
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace: "Setting either 1.2299.12 or 1.0.12" with "Setting either 1.2299.11 or 1.0.11"

CI 45 SC 45.5.3.3 P 53 L 20 # 179
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [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)
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace: "Clearing either 1.2299.12 or 1.0.12" with "Clearing either 1.2299.11 or 1.0.11"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type T Comment Status A Power
 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 []

Response Response Status C
 ACCEPT IN PRINCIPLE.

Grant PICS Editor license to review and align with the features in the text if needed.

CI 45 SC 45.5.3.7 P 54 L 3 # 53
 Anslow, Pete Ciena

Comment Type E Comment Status A EZ
 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:"

Response Response Status C
 ACCEPT.

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

Comment Type E Comment Status A EZ
 [EASY] 3.2304.15

SuggestedRemedy

3.2278.15 (PCS Control Register of 10BASE-T1L)

Response Response Status C
 ACCEPT IN PRINCIPLE.

Replace "3.2304.15" with "3.2278.15"

CI 78 SC 78.1.3.3.1 P 57 L 10 # 431
 Wienckowski, Natalie General Motors

Comment Type T Comment Status A EZ
 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".

Response Response Status C
 ACCEPT.

CI 78 SC 78.1.3.3.1 P 57 L 20 # 54
 Anslow, Pete Ciena

Comment Type E Comment Status A EZ
 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

Response Response Status C
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 78 SC 78.1.3.3.1 P 57 L 22 # 711
Kabra, Lokesh Synopsys Inc

Comment Type E Comment Status A Power

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"

Response Response Status C

ACCEPT.

Master comment 711. Resolve with 432, 280, 279.

CI 78 SC 78.2 P 57 L 39 # 55
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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"

Response Response Status C

ACCEPT.

CI 78 SC 78.2 P 57 L 40 # 432
Wienckowski, Natalie General Motors

Comment Type T Comment Status R Power

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.

Response Response Status C

REJECT.

Master comment 711. Resolve with 711, 280, 279.

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

CI 78 SC 78.2 P 57 L 41 # 279
KIM, YONG NIO

Comment Type TR Comment Status R Power

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.

Response Response Status W

REJECT.

Master comment 711. Resolve with 711, 432, and 280.

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.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 78 **SC 78.5** **P 58** **L 3** # **1**

Hajduczenia, Marek Charter

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

Extra full stop at the end of editorial note

SuggestedRemedy

Remove extra full stop

Response **Response Status** **C**

ACCEPT IN PRINCIPLE.

Delete "." after ":" on line 3.

Cl 78 **SC 78.5** **P 58** **L 15** # **280**

KIM, YONG NIO

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

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.

Response **Response Status** **W**

REJECT.

Master comment 711. Resolve with 711, 432, and 279.

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.

Cl 98 **SC 98** **P 59** **L 1** # **464**

Jones, Peter Cisco

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

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** **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

This is the title of exisitng clause 98. Changing the title requires a maintenance request.

Cl 98 **SC 98.2.1.1.2** **P 59** **L 13** # **592**

Healey, Adam Broadcom Inc.

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

"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.

Response **Response Status** **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.2.1.1.2 P 59 L 14 # 358
Yseboodt, Lennart Signify

Comment Type E Comment Status A AutoNeg
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."

Response Response Status C
ACCEPT IN PRINCIPLE.

Accomodated by #2.

CI 98 SC 98.2.1.1.2 P 59 L 15 # 463
Jones, Peter Cisco

Comment Type TR Comment Status A Editorial
Where is the requirement for autonegotiation high speed mode stated?

SuggestedRemedy

Add explanatory text

Response Response Status C
ACCEPT IN PRINCIPLE.

Master comment 2. Resolve with 2.

In 98.2.1.1.2, page 59, line 13 insert the following sentences after the first sentence (with underlining), "There exist two different auto negotiation speeds, from which at least one auto negotiation speed shall be supported. The two speeds are referred to as "high-speed mode" or HSM and "low-speed mode" or LSM, respectively. HSM serves all speeds above 10 Mb/s. For link segments with high insertion loss, and those requiring 10BASE-T1L, LSM is provided to enable the full reach capability."

CI 98 SC 98.2.1.1.2 P 59 L 15 # 18
Lusted, Kent Intel

Comment Type ER Comment Status A EZ

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".

Response Response Status C
ACCEPT.

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

Comment Type ER Comment Status A EZ

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"

Response Response Status C
ACCEPT.

CI 98 SC 98.2.1.1.2 P 59 L 16 # 56
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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."

Response Response Status C
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.2.1.1.2 P 59 L 16 # 281
KIM, YONG NIO

Comment Type TR Comment Status R Big Ticket Item AutoNeg

PHY operates at 10 Mbps onto medium that supports 10 MBps. If the autonegotiation (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.

Response Response Status W

REJECT.

High speed mode is the legacy mode for clause 97 and 98 PHYs. This amendment added low speed mode for exactly the reason the commenter stated.

Low Speed Mode is added to enable multi-mode PHYs incorporating 10BASE-T1L as well as 10BASE-T1S to switch. See discussion at http://www.ieee802.org/3/cg/public/adhoc/brandt_012517_3cg_01_adhoc.pdf, http://www.ieee802.org/3/cg/public/Sept2017/Gottron_3cg_01a_0917.pdf, and http://www.ieee802.org/3/cg/public/Nov2017/Graber_3cg_16a_1017.pdf.

CI 98 SC 98.2.1.1.2 P 59 L 18 # 343
Yseboodt, Lennart Signify

Comment Type T Comment Status A EZ

"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 98.5.6."

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."

Response Response Status C

ACCEPT.

CI 98 SC 98.2.1.1.2 P 59 L 25 # 359
Yseboodt, Lennart Signify

Comment Type E Comment Status R Editorial

"When operating in low speed mode, the period, T1, shall be 800.0 ns $\pm$ 0.005 %."

Not English.

SuggestedRemedy

"The period T1 shall be 800.0 ns $\pm$ 0.005 % when operating in low speed mode."

Response Response Status C

REJECT.

Wording is clear as is.

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

Comment Type TR Comment Status A Editorial

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 reference, for example) what the high speed and low speed modes are

Response Response Status C

ACCEPT IN PRINCIPLE.

Master comment 2. Resolve with 463.

In 98.2.1.1.2, page 59, line 13 insert the following sentences after the first sentence (with underlining), "Two different auto negotiation speeds are defined in this subclause. A PHY shall support at least one of these auto negotiation speeds. The two speeds are referred to as "high-speed mode" or HSM and "low-speed mode" or LSM, respectively. HSM serves all speeds above 10 Mb/s. For link segments with high insertion loss, and those requiring 10BASE-T1L, LSM is provided to enable the full reach capability."

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type E Comment Status A EZ

Compound adjectives: low-speed and high-speed

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Globally replace "high speed mode" with "high-speed mode" and replace "low speed mode" with "low-speed mode".

CI 98 SC 98.2.1.1.2 P 59 L 26 # 57
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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 $\pm$ 0.01%." as changing to "shall be 30 ns $\pm$ 0.01%."

Change "800.0 ns $\pm$ 0.005 %" to "800 ns $\pm$ 0.005%"

Response Response Status C

ACCEPT IN PRINCIPLE.

Show "shall be 30.0 ns $\pm$ 0.01%." as changing to "shall be 30 ns $\pm$ 0.01%."

Change "800.0 ns $\pm$ 0.005 %" to "800 ns $\pm$ 0.005%"

Ensure non-breaking spaces between numbers, units, and symbols

CI 98 SC 98.2.1.1.2 P 60 L 11 # 58
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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

Response Response Status C

ACCEPT.

CI 98 SC 98.2.1.1.2 P 60 L 15 # 336
Yseboodt, Lennart Signify

Comment Type ER Comment Status A EZ

Empty cell in a Table should be marked as such with an em-dash.
Table 98-1 uses hyphens "-".

SuggestedRemedy

Replace by em-dashes.

Response Response Status W

ACCEPT.

Cl 98	SC 98.2.1.1.3 (802.3 D3.2	P 210	L 35	# 256
Graber, Steffen		Pepperl+Fuchs GmbH		

[AN PREAMBLE] The page is preceded by a unique Start Delimiter consisting of a $26 \times T1$ 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.

The page is preceded by a unique Start Delimiter consisting of a $26 \times T_1$ 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.

(for background information see also presentation "Auto-Negotiation Start Delimiter")

ACCEPT.

CI 98	SC 98.5.2	P 62	L 17	# 59
Anslow, Pete		Ciena		

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)."

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).

ACCEPT.

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

Extra symbol in transition between ABILITY DETECT and TRANSMIT DISABLE states

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

ACCEPT IN PRINCIPLE.

Delete extraneous symbol that looks like a vertical bar in figures on.

page 64, line 6
page 65, line 33
page 65, line 38
page 66, line 12
page 66, line 17
page 66, line 23
page 66, line 25
page 67, line 12
page 67, line 17
page 67, line 22
page 67, line 29

CI 98	SC 98.5.5	P 64	L 6	# 5
Haiduczenia, Marek		Charter		

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

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.

ACCEPT IN PRINCIPLE.

Jon Lewis to use a note/editorial instruction to identify the changes that have been made to Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.5.5 P 64 L 25 # 345
Yseboodt, Lennart Signify

Comment Type TR Comment Status A EZ

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))"

Response Response Status W

ACCEPT.

CI 98 SC 98.5.6 P 67 L 49 # 346
Yseboodt, Lennart Signify

Comment Type TR Comment Status A AutoNeg

"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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Replace, "This state machine shall be implemented as top level state machine of the Auto-Negotiation process."

with, "This state machine operates at the top level of the Auto-Negotiation process, controlling the selection of high-speed mode and low-speed mode, and therefore the parameters used in Figures 98-7, 98-8, and 98-9."

CI 98 SC 98.5.6 P 68 L 2 # 60
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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,"

Response Response Status C

ACCEPT.

CI 98 SC 98.5.6 P 68 L 5 # 597
Lapak, Jeffrey UNH-IOL

Comment Type T Comment Status A AutoNeg

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 transition 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".

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type E Comment Status A EZ
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.

Response Response Status C
ACCEPT.

CI 98 SC 98.5.6 P 68 L 7 # 61
Anslow, Pete Ciena

Comment Type T Comment Status A AutoNeg
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.

Response Response Status C
ACCEPT IN PRINCIPLE.

Accommodated by 597.

CI 98 SC 98.5.6 P 68 L 8 # 718
McClellan, Brett Marvell

Comment Type T Comment Status A AutoNeg
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"

Response Response Status C
ACCEPT IN PRINCIPLE.

Accommodated by 597.

CI 98 SC 98.5.6 P 68 L 13 # 725
McClellan, Brett Marvell

Comment Type TR Comment Status A AutoNeg
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.

Response Response Status C
ACCEPT IN PRINCIPLE.

Proposed text changes:
page 68 Fig 98-11
change "autoneg_reset" to "mr_main_reset"
change "mr_main_reset" to "multispeed_autoneg_reset"

page 68 98.5.6.1 line 42
change
"autoneg_reset
If two different Auto-Negotiation speeds are implemented and this variable is set to TRUE by the management entity, then the state machine described in Figure 98-11 and, subsequently, also the state machines described in Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10, are restarted. If only single speed Auto-Negotiation is implemented, variable mr_main_reset has to be used instead as described in 98.5.1."

to
"multispeed_autoneg_reset
If two different Auto-Negotiation speeds are implemented and this variable is set to true by the state machine in Figure 98-11, then the state machines in Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10, are restarted. If only single speed Auto-Negotiation is implemented then this variable remains set to false.

Values:
false: Auto-Negotiation state machines are in normal operation
true: Auto-Negotiation state machines are restarted "

In figures 98-7, 98-8, 98-9 and 98-10
change "mr_main_reset = true +" to "mr_main_reset = true + multispeed_autoneg_reset = true + "

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.5.6.1 P 68 L 42 # 726
McClellan, Brett Marvell

Comment Type TR Comment Status A AutoNeg

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."

Response Response Status C

ACCEPT IN PRINCIPLE.

Accomodated by #725

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

Comment Type T Comment Status A AutoNeg

[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".

Response Response Status C

ACCEPT.

CI 98 SC 98.5.6.3 P 69 L 28 # 63
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

Incorrect multiply symbol used

SuggestedRemedy

replace with correct multiply symbol (Ctrl-q 0)

Response Response Status C

ACCEPT.

CI 98 SC 98.6.2a P 70 L 6 # 64
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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

SuggestedRemedy

Fix Autonumber format.

Response Response Status C

ACCEPT IN PRINCIPLE.

Confirm that a space can be inserted between "98.6.2a" and "Major" and insert space if possible.

CI 98 SC 98.6.2a P 70 L 11 # 65
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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"

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.6.3 P 70 L 31 # 66
Anslow, Pete Ciena

Comment Type E Comment Status A PICS

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 []"

Response Response Status C

ACCEPT.

CI 98 SC 98.6.8 P 71 L 36 # 67
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

CI 98 SC 98.6.8 P 72 L 39 # 68
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

Item "SDE15a" should be "SD15a"

SuggestedRemedy

Change "SDE15a" to "SD15a"

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status R EZ

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

SuggestedRemedy

Per comment.

Response Response Status C

REJECT.

Underline annotations are not shown for insert instructions. The only changed row is the original "A3 to A26" row and change marks are shown appropriately.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98	SC 98B.3	P 197	L 21	# 446
Wienckowski, Natalie		General Motors		
Comment Type	T	Comment Status	A	Registers
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.				
Response		Response Status	C	
ACCEPT IN PRINCIPLE.				
Insert rows for A1 Reserved and A2 1000BASE-T1 ability after the "." row in Table 98B-1.				
Strikethrough "Reserved" in the A1 row and replace with "10BASE-T1S ability" in underline.				
Change "A7 through A19" Reserved to "A3 through A8 Reserved"				
Insert row "A9 10BASE-T1L ability"				
Insert row "A10 through A19 Reserved"				
Change editing instruction to include change to bit A1. (with editorial license)				

CI 98	SC 98B.3	P 197	L 48	# 722
McClellan, Brett		Marvell		
Comment Type	TR	Comment Status	A	AutoNeg
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				
Response		Response Status	C	
ACCEPT IN PRINCIPLE.				
Implement comment #446 first.				
Change as follows,				
Bit "10BASE-T1L ability" changes to "10BASE-T1L full duplex ability"				
Bit "10BASE-T1S ability" becomes "10BASE-T1S full duplex ability"				
Bit "Full duplex ability" becomes "10BASE-T1S half duplex ability"				
Bit "Increased transmit/receive level ability" becomes "10BASE-T1L increased transmit/receive level ability"				
Bit "EEE ability" becomes "10BASE-T1L EEE ability" (text underlined)				
Grant editorial license to change the text on lines 40-43 on page 197 and lines 1-10 on page 198.				

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98B.3 P 198 L 1 # 723
McClellan, Brett Marvell

Comment Type TR Comment Status A Big Ticket Item TX Level

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Change:

45.2.1.174a.4 Transmit voltage amplitude control (1.2294.12)
When bit 1.2294.12 is set to one, the 10BASE-T1L PMA shall transmit using the 2.4 Vpp
operating mode according to 146.5.4.1. When bit 1.2294.12 is set to zero, the 10BASE-
T1L PMA shall transmit using the 1.0 Vpp operating mode according to 146.5.4.1. The
default value of bit 1.2294.12 is zero.

To:

45.2.1.174a.4 Transmit voltage amplitude control (1.2294.12)
Bit 1.2294.12 is used to set the 2.4 Vpp operating mode when Auto-Negotiation enable bit
7.512.12 is set to zero or if Auto-Negotiation is not implemented. If bit 1.2294.12 is set to
one the PHY shall operate in 2.4 Vpp operating mode according to 146.5.4.1. If bit
1.2294.12 is set to zero the PHY shall operate in 1.0 Vpp operating mode according to
146.5.4.1. The default value of bit 1.2294.12 is zero. This bit shall be ignored when the
Auto-Negotiation enable bit 7.512.12 is set to one.

Add an additional bit to 10BASE-T1 AN control 1 register at 7.526:

10BASE-T1L Increased transmit level request advertisement

Add an additional bit to 10BASE-T1 AN status 1 register at 7.527:

10BASE-T1L link partner increased transmit level request advertised

Add an additional bit to the Clause 98 AN base page (Table 98B-1), Editorial license to
position after consideration of other accepted comments on this table:

10BASE-T1L increased transmit level request

Add the following text to 146.5.4.1 (at the end of the Clause):

If Auto-Negotiation is present and enabled, negotiation of the 2.4 Vpp or 1.0 Vpp operating
mode is done in the following way:

If both PHYs do advertise an increased transmit/receive ability and at least one PHY
advertises an increased transmit level request, then both PHYs shall use the 2.4 Vpp
operating mode, in all other cases both PHYs shall use the 1.0 Vpp operating mode.

Remove the following text from Annex 98B.3:

Bit A24 shall contain a one, if the PHY is supporting and advertising the 2.4 Vpp operating
mode and it shall contain a zero, if the 2.4 Vpp operating mode is not supported or not
advertised. If both PHYs advertise the ability to support the 2.4 Vpp operating mode, then it
shall be enabled for both PHYs by the management entity, otherwise it shall be disabled
for both PHYs.

CI 98 SC 98B.3 P 198 L 6 # 724
McClellan, Brett Marvell

Comment Type TR Comment Status A EEE

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

Response Response Status W

ACCEPT IN PRINCIPLE.

In Table 98B-1, replace "Reserved" entry for bit A25 with "10BASE-T1L EEE ability" and
replace "EEE ability" entry for bit A26 with "10BASE-T1S EEE ability. Show change marks
as needed.

Insert the following text for Bit A25 on page 198, line 5: "Bit A25 shall contain a one if the
10BASE-T1L PHY is supporting and advertising Energy Efficient Ethernet ability and it
shall contain a zero if Energy Efficient Ethernet is not supported or not advertised."

Insert "10GBASE-T1S" before PHY" on page 198, line 6 (text addressing Bit A26).

Delete, "If both PHYs advertise the ability to support Energy Efficient Ethernet during Auto-
Negotiation, then EEE shall be enabled for both PHYs by the management entity,
otherwise it shall be disabled for both PHYs." on page 198, line 7.

Delete "," after "if" in two locations on page 198, lines 6 and 7.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 98 **SC 98B.4** **P 198** **L 20** # **142**
 Anslow, Pete Ciena
Comment Type **E** **Comment Status** **A** **EZ**
 Underline missing from last em-dash
SuggestedRemedy
 Underline it
Response **Response Status** **C**
 ACCEPT.

Cl 104 **SC 104** **P** **L** # **155**
 DiMinico, Christopher MC Communications
Comment Type **TR** **Comment Status** **A** **EZ**
 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).
Response **Response Status** **C**
 ACCEPT.
 Master comment 155. Resolve with 616 and 183.

Cl 104 **SC 104** **P 73** **L 1** # **69**
 Anslow, Pete Ciena
Comment Type **E** **Comment Status** **R** **EZ**
 The title of Clause 104 is incorrect.
SuggestedRemedy
 Change the title to: "Power over Data Lines (PoDL) of Single Balanced Twisted-Pair Ethernet"
Response **Response Status** **C**
 REJECT.
 "Single-Pair Ethernet" is aligned with the text in bullets 7, 8, and 16 in the project objectives.

Cl 104 **SC 104** **P 73** **L 1** # **616**
 Stover, David Analog Devices
Comment Type **T** **Comment Status** **A** **EZ**
 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.
Response **Response Status** **C**
 ACCEPT.
 Master comment 155. Resolve with 155 and 183.

Cl 104 **SC 104** **P 73** **L 1** # **183**
 Graber, Steffen Pepperl+Fuchs GmbH
Comment Type **T** **Comment Status** **A** **EZ**
 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.
Response **Response Status** **C**
 ACCEPT.
 Master comment 155. Resolve with 155 and 616.

Cl 104 **SC 104.1.3** **P 73** **L 6** # **465**
 Jones, Peter Cisco
Comment Type **TR** **Comment Status** **R** **Power**
 PoDL is not applicable to multidrop mixing segment
SuggestedRemedy
 Add clarifying statement
Response **Response Status** **W**
 REJECT.
 A link segment is defined as a point to point medium between two MDIs. Clause 104.1.3 already says this.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 104 SC 104.1.3 P 73 L 10 # 466
Jones, Peter Cisco

Comment Type TR Comment Status R Editorial

This text should be table, as text it's close to unreadable

SuggestedRemedy

Convert this to a table

Response Response Status W

REJECT.

This is a comment on legacy text, on a characteristic which hasn't been substantively changed. A maintenance request is needed to pursue such a change.

CI 104 SC 104.1.3 P 73 L 10 # 374
Matheus, Kirsten BMW AG

Comment Type E Comment Status R Power

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

Response Response Status C

REJECT.

Editors believe that the commenter's interpretation is correct. This is a comment on legacy, unchanged text and should be addressed through maintenance if it is an issue.

CI 104 SC 104.4.1 P 73 L 23 # 70
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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

SuggestedRemedy

underline the added comma and space.

Response Response Status C

ACCEPT.

CI 104 SC 104.4.4.1 P 73 L 33 # 71
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

It is Table 104-3 that is being modified

SuggestedRemedy

Change the table number to Table 104-3

Response Response Status C

ACCEPT.

CI 104 SC 104.4.4.1 P 73 L 47 # 72
Anslow, Pete Ciena

Comment Type T Comment Status A EZ

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.

Response Response Status C

ACCEPT.

CI 104 SC 104.4.4.1 P 74 L 13 # 73
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **104** SC **104.4.6** P **75** L **6** # **74**
 Anslow, Pete Ciena
 Comment Type **E** Comment Status **A** EZ
 It is Table 104-4 that is being modified
 SuggestedRemedy
 Change the table number to Table 104-4.
 Response Response Status **C**
 ACCEPT.

CI **104** SC **104.4.6.3** P **75** L **32** # **360**
 Yseboodt, Lennart Signify
 Comment Type **E** Comment Status **A** EZ
 "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.
 Response Response Status **C**
 ACCEPT.

CI **104** SC **104.4.6.3** P **75** L **38** # **75**
 Anslow, Pete Ciena
 Comment Type **E** Comment Status **A** EZ
 Usual practice in 802.3 is to not have a space between a number and %.
 SuggestedRemedy
 Change to "± 1%."
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Replace "± 1%." with "±1%."

CI **104** SC **104.4.6.3** P **75** L **41** # **337**
 Yseboodt, Lennart Signify
 Comment Type **ER** Comment Status **A** EZ
 Equations 104-1, 104-2, and 104-3 are missing accolades {
 SuggestedRemedy
 Add accolades and unit where applicable.
 Response Response Status **W**
 ACCEPT IN PRINCIPLE.

Move omega symbol in equation 104-1 to the end of the equation and enclose in parenthesis.

Editor's note: There are no units for the transfer functions in equations 104-2 and 104-3.

CI **104** SC **104.5.6** P **76** L **36** # **76**
 Anslow, Pete Ciena
 Comment Type **T** Comment Status **A** Editorial
 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.
 Response Response Status **C**
 ACCEPT.

CI **104** SC **104.5.6** P **76** L **40** # **77**
 Anslow, Pete Ciena
 Comment Type **T** Comment Status **A** EZ
 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.
 Response Response Status **C**
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 104 SC 104.5.6.4 P 77 L 8 # 78
 Anslow, Pete Ciena
 Comment Type E Comment Status A EZ
 "Figure 104 9" should be "Figure 104-9"
 SuggestedRemedy
 Change "Figure 104 9" to "Figure 104-9"
 Response Response Status C
 ACCEPT.

CI 104 SC 104.5.6.4 P 77 L 15 # 79
 Anslow, Pete Ciena
 Comment Type E Comment Status A EZ
 "Clause 146" should be a cross-reference
 SuggestedRemedy
 Make "Clause 146" a cross-reference
 Response Response Status C
 ACCEPT.

CI 104 SC 104.5.6.4 P 77 L 29 # 347
 Yseboodt, Lennart Signify
 Comment Type TR Comment Status R PoDL
 "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.
 Response Response Status W
 REJECT.
 Language is exactly parallel to the other 3 types of PDs already in IEEE Std 802.3-2018.

CI 104 SC 104.7 P 78 L 1 # 585
 Stewart, Heath Analog Devices
 Comment Type TR Comment Status A Power
 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

Response Response Status C
 ACCEPT IN PRINCIPLE.
 Incorporate text changes from stewart_0918_01b.pdf slides 7-13.

CI 104 SC 104.7.1.3 P 79 L 41 # 80
 Anslow, Pete Ciena
 Comment Type E Comment Status A EZ
 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"

Response Response Status C
 ACCEPT.

CI 104 SC 104.7.1.3 P 79 L 41 # 361
 Yseboodt, Lennart Signify
 Comment Type E Comment Status A EZ
 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.

Response Response Status C
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type E Comment Status A EZ

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)

Response Response Status C
ACCEPT.

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

Comment Type E Comment Status A EZ

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"

Response Response Status C
ACCEPT IN PRINCIPLE.

Replace "Clause 104, Reconciliation Sublayer (RS) and Media Independent Interface (MII)" with "Clause 104, Power over Data Lines (PoDL) of Single-Pair Ethernet"

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

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C
ACCEPT.

CI 104 SC 104.9.4 P 82 L 26 # 429
Wienckowski, Natalie General Motors

Comment Type E Comment Status A EZ

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair" to "single balanced pair of conductors".

Response Response Status C
ACCEPT.

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

Comment Type E Comment Status A EZ

"Clause 146" should be a cross-reference

SuggestedRemedy

Make "Clause 146" a cross-reference

Response Response Status C
ACCEPT.

CI 146 SC 146 P 85 L 1 # 338
Yseboodt, Lennart Signify

Comment Type ER Comment Status A Big Ticket Item Editorial

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.

Response Response Status W
ACCEPT IN PRINCIPLE.

Equations for different types of parameters have different formatting in IEEE Std 802.3.
Add right hand accolade (}) to multi-line equations in 146.7 and 146.8 (see equation 97-17 in 802.3-2018 for example).

Other than in these two subclauses, clause 146 and clause 147 equations are formatted consistently with 802.3 style in other similar PHY clauses for similar parameters.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 146 SC 146 P 85 L 2 # 85
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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

SuggestedRemedy

Remove the footnote

Response Response Status C

ACCEPT.

Cl 146 SC 146 P 85 L 53 # 467
Jones, Peter Cisco

Comment Type E Comment Status A EZ

I don't see the note about PICS proforma copyright release in other 802.3 standards, why is it needed

SuggestedRemedy

Remove

Response Response Status C

ACCEPT IN PRINCIPLE.
Implemented by comment i-85.

Cl 146 SC 146 P 94 L 0 # 390
Jones, Chad Cisco

Comment Type ER Comment Status A Big Ticket Item Editorial

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"

Response Response Status C

ACCEPT IN PRINCIPLE.

Grant editorial license to perform a global review, correction, and implementation of the changes marked in "8023cg_D2p0-cjones-markup.pdf"

Chief Editor to implement remedy when preparing the files for d2p1.

Cl 146 SC 146.1 P 85 L 8 # 379
Jones, Chad Cisco

Comment Type E Comment Status A Editorial

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)."

Response Response Status C

ACCEPT.

Cl 146 SC 146.1 P 85 L 8 # 667
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A Editorial

Unnecessary comma.

SuggestedRemedy

Change from "Together, the PCS, and PMA sublayers" to "Together, the PCS and PMA sublayers"

Response Response Status C

ACCEPT IN PRINCIPLE.
Implemented by comment i-379

Cl 146 SC 146.1 P 85 L 9 # 86
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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 ...".

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 146 **SC 146.1** **P 85** **L 12** # **87**
 Anslow, Pete Ciena
Comment Type **E** **Comment Status** **A** **EZ**
 "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)
Response **Response Status** **C**
 ACCEPT.

Cl 146 **SC 146.1** **P 135** **L 8** # **487**
 Jones, Peter Cisco
Comment Type **TR** **Comment Status** **D** **Delay**
 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** **Z**
 REJECT.
 This comment was WITHDRAWN by the commenter.

See comments 450 and 487 - PAUSE functionality in clause 31B is handled differently for speeds of 100 Mbps or less.

Cl 146 **SC 146.1.2** **P 85** **L 34** # **668**
 Donahue, Curtis UNH-IOL
Comment Type **E** **Comment Status** **A** **EZ**
 Clause 146 uses the term "single balanced pair of conductors" 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"
Response **Response Status** **C**
 ACCEPT.

Cl 146 **SC 146.1.2** **P 85** **L 37** # **88**
 Anslow, Pete Ciena
Comment Type **E** **Comment Status** **A** **EZ**
 "3 level" should be "3-level" when used as a compound adjective
SuggestedRemedy
 Change "3 level" to "3-level"
Response **Response Status** **C**
 ACCEPT.

Cl 146 **SC 146.1.2** **P 86** **L 19** # **436**
 Wienckowski, Natalie General Motors
Comment Type **T** **Comment Status** **R** **EZ**
 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.
Response **Response Status** **C**
 REJECT.
 Crosshash indicates elements specified in this clause and the bracing indicates what is part of the PHY. This is consistent with other clauses.

Cl 146 **SC 146.1.2** **P 86** **L 30** # **560**
 D'Ambrosia, John Futurewei, Subsidiary
Comment Type **E** **Comment Status** **A** **Editorial**
 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
Response **Response Status** **C**
 ACCEPT IN PRINCIPLE.
 Adding a table was considered, but there are only 2 phys here, and each have the PCS, PMA and PMD specified in a single clause as opposed to the optical PHYs which often have these tables. There are many older 10 Mbps PHYs, but they are out of scope of this project, a maintenance request might be an approach to that. Adding a table might be useful for the entire BASE-T1 family, but is beyond the scope of this project, as it would impact other speeds.

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CI 146 SC 146.1.2 P 86 L 34 # 437
Wienckowski, Natalie General Motors

Comment Type E Comment Status A EZ
missing period

SuggestedRemedy
Add period at end of last sentence in the paragraph.

Response Response Status C
ACCEPT.

CI 146 SC 146.1.2 P 86 L 36 # 721
McClellan, Brett Marvell

Comment Type TR Comment Status A AutoNeg
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

Response Response Status C
ACCEPT IN PRINCIPLE.

Editorial license to add advertisement and status registers for 10BASE-T1L and 10BASE-T1S in MMD7.
Define 10BASE-T1 AN control 1 register at 7.526 with the following bits defined:
10BASE-T1L full duplex ability advertisement
10BASE-T1L EEE ability 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

Editorial license to add 10BASE-T1 AN status 1 registers at 7.527 with the following bits defined:

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

10BASE-T1L link partner full duplex ability advertisement
 10BASE-T1L link partner ability 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

Cl 146 **SC 146.1.2** **P 86** **L 36** # **339**
 Yseboodt, Lennart Signify

Comment Type **ER** *Comment Status* **A** *Big Ticket Item Editorial*

"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."

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Replace,

"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."

with,

"A 10BASE-T1L PHY optionally supports Energy-Efficient Ethernet (see Clause 78) and advertises the EEE capability during Auto-Negotiation as described in Annex 98B.3."

"may" translates to "is permitted to" and is used for unspecified, permitted operation. In this context, "may optionally" conveys something different - a specified optional functionality which is permitted.

Cl 146 **SC 146.1.2** **P 86** **L 40** # **348**
 Yseboodt, Lennart Signify

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

"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."

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Accommodated by 318.

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CI **146** SC **146.1.2** P **86** L **40** # **318**
Wendt, Matthias Signify

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

"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."

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Replace,
"A 10BASE-T1L PHY shall be capable of operating as MASTER or SLAVE, per runtime configuration."

with,
"A 10BASE-T1L PHY is capable of operating both as MASTER or SLAVE, with one mode active as determined according to 146.6.1."

(Option 1 is what is meant) this is a duplicate shall. The actual requirement is in 146.4.2 "When the config parameter is set to MASTER, the PMA Transmit function derives the TX_TCLK from a local clock source. When the config parameter is set to SLAVE, the PMA Transmit function derives the TX_TCLK from the recovered clock." (this is what is done in other BASE-T clauses). Change "shall be capable of operating as MASTER or SLAVE, per runtime configuration." to "is capable of operating both as MASTER or SLAVE, with one mode active as determined according to 146.6.1."

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

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
implemented by comment 381 (duplicate) - resolution was: delete

CI **146** SC **146.1.2** P **86** L **48** # **381**
Jones, Chad Cisco

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

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."

Response Response Status **C**

ACCEPT.

CI **146** SC **146.1.2** P **86** L **48** # **717**
McClellan, Brett Marvell

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

paragraph is redundant to line 36.

SuggestedRemedy

Delete the paragraph

Response Response Status **C**

ACCEPT IN PRINCIPLE.
implemented by comment 381 (duplicate) - resolution was: 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."

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Cl **146** SC **146.1.2** P **86** L **48** # **669**
Donahue, Curtis UNH-IOL

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
implemented by comment 381 (duplicate) - resolution was: 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."

Cl **146** SC **146.1.2.1** P **87** L **3** # **712**
Kabra, Lokesh Synopsys Inc

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

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"

Response Response Status **C**

ACCEPT.

Cl **146** SC **146.1.2.2** P **85** L **6** # **559**
D'Ambrosia, John Futurewei, Subsidiary

Comment Type **TR** Comment Status **A** Big Ticket Item AutoNeg

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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Comment resolved by comment 723 which define compatibility settings and auto-negotiation for the two different tx levels.

Cl **146** SC **146.1.2.2** P **87** L **8** # **713**
Kabra, Lokesh Synopsys Inc

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

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."

Response Response Status **C**

ACCEPT.

Cl **146** SC **146.1.2.2** P **87** L **10** # **468**
Jones, Peter Cisco

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

Strike out "at 7.5 MBd"

SuggestedRemedy

Make suggested change

Response Response Status **C**

ACCEPT.

Cl **146** SC **146.1.2.3** P **87** L **14** # **340**
Yseboodt, Lennart Signify

Comment Type **ER** Comment Status **A** Big Ticket Item Editorial

"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."

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Replace,
"A 10BASE-T1L PHY may optionally support the EEE capability, as described in 78.3."

with,
"A 10BASE-T1L PHY optionally supports the EEE capability, as described in 78.3."

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.1.2.3** P **87** L **21** # **382**
 Jones, Chad Cisco
 Comment Type **E** Comment Status **A** EZ
 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"
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.1.2.3** P **87** L **27** # **383**
 Jones, Chad Cisco
 Comment Type **E** Comment Status **A** EZ
 missing comma: "Periodically the transmit function of the local"
 SuggestedRemedy
 CHANGE TO: "Periodically, the transmit function of the local"
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.1.2.3** P **87** L **30** # **384**
 Jones, Chad Cisco
 Comment Type **ER** Comment Status **A** EEE
 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."
 Response Response Status **W**
 ACCEPT.

CI **146** SC **146.1.3** P **88** L **4** # **438**
 Wienckowski, Natalie General Motors
 Comment Type **E** Comment Status **A** EZ
 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
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.2** P **89** L **2** # **148**
 Lewis, Jon Dell EMC
 Comment Type **E** Comment Status **A** EZ
 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
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.2** P **89** L **5** # **367**
 Matheus, Kirsten BMW AG
 Comment Type **ER** Comment Status **A** EZ
 MDIO arrow needs to go in both directions.
 SuggestedRemedy
 Edit picture accordingly
 Response Response Status **C**
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.2.3** P **90** L **51** # **385**
Jones, Chad Cisco

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

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."

Response Response Status **C**

ACCEPT.

CI **146** SC **146.2.3.1** P **91** L **5** # **386**
Jones, Chad Cisco

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

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."

Response Response Status **C**

ACCEPT.

CI **146** SC **146.2.4.1** P **91** L **35** # **387**
Jones, Chad Cisco

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

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."

Response Response Status **C**

ACCEPT.

CI **146** SC **146.2.5.1** P **92** L **5** # **388**
Jones, Chad Cisco

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

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."

Response Response Status **C**

ACCEPT.

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

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

[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).

Response Response Status **C**

ACCEPT.

CI **146** SC **146.2.7** P **92** L **51** # **439**
Wienckowski, Natalie General Motors

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

extraneous "o"

SuggestedRemedy

Change: whether reliable operation o of the
To: whether reliable operation of the

Response Response Status **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.2.7** P **92** L **51** # **389**
Jones, Chad Cisco

Comment Type **ER** Comment Status **A** EZ
typo, extra unintentional character: "operation o of "

SuggestedRemedy
delete the 'o'

Response Response Status **C**
ACCEPT.

CI **146** SC **146.2.7** P **92** L **52** # **385**
Grabner, Steffen Pepperl+Fuchs GmbH

Comment Type **E** Comment Status **A** EZ
[EASY] . operations o of the .

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

Response Response Status **C**
ACCEPT.

CI **146** SC **146.3** P **96** L **6** # **580**
Fitzgerald, Niall Acuitas Silicon

Comment Type **E** Comment Status **A** EZ
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.

Response Response Status **C**
ACCEPT.

CI **146** SC **146.3** P **96** L **6** # **579**
Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **A** Big Ticket Item **EEE**

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Modify PCS reference diagram (Figure 146-3) as shown on slide 4 of graber_3cg_06a_0818.pdf

CI **146** SC **146.3** P **96** L **6** # **578**
Fitzgerald, Niall Acuitas Silicon

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

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.

Response Response Status **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3** P **96** L **10** # **566**
Laubach, Mark Broadcom

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

Both line 10 "config" and line 29 "receiving" the text could be horizontal rather than vertical. To me easier reading. Same for Page 113, Line 7 "config" and line 25 "recovery clock".

SuggestedRemedy

Suggest make both horizontal.

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.2.1** P **98** L **4** # **111**
Anslow, Pete Ciena

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

"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).

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.2.1** P **98** L **4** # **517**
Maguire, Valerie The Siemon Company

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

Clause 22.2.2.5 is in the amendment.

SuggestedRemedy

Make 22.2.2.5 a cross-reference and remove the "External" character tag

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.3.1** P **101** L **1** # **362**
Yseboodt, Lennart Signify

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Remove dots at line 36 and 40. Labels in circles as inputs are correct 802.3 style. Commenter to consider maintenance request on clause 96 (100BASE-T1) where the incorrect symbol in clause 147 came from. Fix labels in clause 147 to be in circles.... (THERE APPEARS TO BE NO COMMENT ON CLAUSE 147 ON THIS ISSUE)

CI **146** SC **146.3.3.1** P **101** L **4** # **90**
Anslow, Pete Ciena

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

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.

Response Response Status **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.3.3.2.1 P 102 L 41 # 264
Andre, Szczepanek HSZ Consulting

Comment Type ER Comment Status A EZ

I fund this sub-clause very confusing because it uses the term "transmitter 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"

Response Response Status C

ACCEPT.

CI 146 SC 146.3.3.2.1 P 102 L 47 # 319
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ

"In no case shall the scrambler state be initialized to all zeros."

Akward wording.

SuggestedRemedy

"The scrambler state not be initialized to all zeros."

Response Response Status C

ACCEPT.

CI 146 SC 146.3.3.2.3 P 103 L 40 # 257
Andre, Szczepanek HSZ Consulting

Comment Type E Comment Status A PCS

This sub-clause is redundant

SuggestedRemedy

Remove 146.3.3.2.3
Edit 146.3.3.2.2 to generate SCn[3:0] directly.

Response Response Status C

ACCEPT IN PRINCIPLE.

Delete 146.3.3.2.3. Give editorial license to edit 146.3.3.2.2 to generate SCn[3:0] directly.

CI 146 SC 146.3.3.2.5 P 104 L 29 # 91
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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)"

Response Response Status C

ACCEPT.

CI 146 SC 146.3.3.2.5 P 104 L 31 # 258
Andre, Szczepanek HSZ Consulting

Comment Type E Comment Status A Editorial

"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."

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3.3.2.7** P **104** L **51** # **92**
 Anslow, Pete Ciena

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

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

SuggestedRemedy

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

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.3.2.7** P **105** L **7** # **320**
 Yseboodt, Lennart Signify

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

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

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.3.2.7** P **105** L **35** # **321**
 Yseboodt, Lennart Signify

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

Table 146-2 and 146-3 use hyphens to indicate negative numbers.

SuggestedRemedy

Change hyphen to minus symbol.

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.4.1** P **106** L **8** # **469**
 Jones, Peter Cisco

Comment Type **TR** Comment Status **A** Big Ticket Item JAB

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

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Clause 146 is a full duplex PHY which continuously transmits symbols. The model the commenter suggests is appropriate to half-duplex PHYs on a mixing segment.

Figure 146-10 serves the purpose to prevent the receive state machine lockup should the COMMA and ESD become corrupted.

Rename the "JAB" State Diagram (Figure 146-10) as "Receive Watchdog State Diagram".

Insert editor's note indicating that the change of the name of Figure 146-10 suggests that the variable names might be better aligned with the purpose of the Figure. Comments are solicited.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3.4.1** P **106** L **13** # **259**
 Andre, Szczepanek HSZ Consulting

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

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."

Response Response Status **C**

ACCEPT IN PRINCIPLE.
 After "As a result, the depth of the data flush-in delay line is the same as the flush-out delay line ensuring correct packet reception at the MII.",
 Insert "These delay lines are necessary to decode the stream delimiters prior to forwarding the received data to the MII interface." (the delay is necessary to manage both the start and end of stream delimiter)"

CI **146** SC **146.3.4.1** P **106** L **19** # **470**
 Jones, Peter Cisco

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

Replace "ESD4 and ERR_ESD4, see 1" with ""ESD4 and ERR_ESD4 values see"

SuggestedRemedy

Make suggested change

Response Response Status **C**

ACCEPT.

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

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

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 **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Implementation notes are inappropriate for the standard. If there is a necessary requirement to be added for interoperability, we should state it, but there appears none.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3.4.1** P **107** L **1** # **577**
Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **A** Big Ticket Item **EEE**

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].

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Implement changes to PCS Receive state diagram (146-8 and 146-9) on pages 4 & 5 of graber_3cg_04a_0918.pdf

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

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

[EASY] (scr_status = OK)*

SuggestedRemedy

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

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.4.1** P **109** L **15** # **473**
Jones, Peter Cisco

Comment Type **TR** Comment Status **A** Big Ticket Item **JAB**

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

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Accommodated by #469

CI **146** SC **146.3.4.1.1** P **109** L **29** # **263**
Andre, Szczepanek HSZ Consulting

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

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)

Response Response Status **C**

ACCEPT.

CI **146** SC **146.3.4.1.1** P **109** L **49** # **720**
McClellan, Brett Marvell

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Accommodated by #719.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.3.4.1.1 P 110 L 6 # 576
Fitzgerald, Niall Acuitas Silicon

Comment Type E Comment Status A Editorial

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 description of RXD[3:0] to be:
The RXD signal of the MII as specified in 22.2.2.8.

Response Response Status C

ACCEPT.

CI 146 SC 146.3.4.2 P 111 L 38 # 261
Andre, Szczepanek HSZ Consulting

Comment Type TR Comment Status R PCS

"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 "TRAINING_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

Response Response Status W

REJECT.

Tutorial information on synchronizing the scrambler is not required for interoperability and is not generally found in 802.3 BASE-T PHY clauses. Clause 40 is the model for these side stream scramblers and contains substantially the same information. Further implementation information of scrambler synchronization is not described.

Clauses 32, 55, 113 and 126 all employ side stream scramblers with similar description.

CI 146 SC 146.3.4.3 P 112 L 12 # 322
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ

There is a spurious period after equation 146-5.

SuggestedRemedy

Remove period.

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3.5** P **112** L **32** # **474**
 Jones, Peter Cisco
 Comment Type **ER** Comment Status **A** Editorial
 Remove " PCS loopback mode is enabled"
 SuggestedRemedy
 Make suggested change
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.4** P **113** L **3** # **581**
 Fitzgerald, Niall Acuitas Silicon
 Comment Type **E** Comment Status **A** EZ
 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.
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.4.3** P **114** L **36** # **262**
 Andre, Szczepanek HSZ Consulting
 Comment Type **E** Comment Status **A** EZ
 "received signals on at the MDI"
 SuggestedRemedy
 Change
 "received signals on at the MDI"
 to
 "received signals on the MDI"
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.4.3** P **114** L **37** # **391**
 Jones, Chad Cisco
 Comment Type **ER** Comment Status **A** EZ
 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."
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.4.3** P **115** L **19** # **475**
 Jones, Peter Cisco
 Comment Type **T** Comment Status **D** PMA
 Why is PMA Receive fault optional and not mandatory
 SuggestedRemedy
 clarify
 Proposed Response Response Status **Z**
 REJECT.
 This comment was WITHDRAWN by the commenter.
 Generation of PMA receive fault is generally optional in 802.3 BASE-T PHYs. This PHY follows the practice. No change to draft.

CI **146** SC **146.4.4** P **115** L **27** # **476**
 Jones, Peter Cisco
 Comment Type **TR** Comment Status **A** EZ
 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 management control got it's data, and we don't define hardware.
 SuggestedRemedy
 Strike out via "default hardware setup"
 Response Response Status **C**
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.4.4 P 115 L 31 # 93
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Grant editorial license to perform a global review and correction.

Chief Editor to implement remedy when preparing the files for d2p1.

CI 146 SC 146.4.4 P 115 L 39 # 583
Fitzgerald, Niall Acuitas Silicon

Comment Type T Comment Status A PMA

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Partially Implemented by comment i-478 - which deletes lines 44-46 (the Note)

Delete first and last sentence of 3rd paragraph of 146.4.4 (para is lines 39-43) and change remaining sentence to read:

The time to reach link_status = OK shall be less than 3030 ms.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.4.4 P 115 L 39 # 477
Jones, Peter Cisco

Comment Type TR Comment Status A Big Ticket Item PMA
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 "

Response Response Status W

ACCEPT IN PRINCIPLE.
Predetermined configuration was removed by comment 583.

CI 146 SC 146.4.4 P 115 L 44 # 94
Anslow, Pete Ciena

Comment Type E Comment Status A EZ
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"

Response Response Status C

ACCEPT.

CI 146 SC 146.4.4 P 115 L 44 # 478
Jones, Peter Cisco

Comment Type TR Comment Status A PMA
Where is "fast startup" defined/described. Why is this note needed?

SuggestedRemedy

delete the note

Response Response Status W

ACCEPT.

CI 146 SC 146.4.4.1 P 116 L 2 # 564
Laubach, Mark Broadcom

Comment Type TR Comment Status A EZ
"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."

Response Response Status C

ACCEPT.

CI 146 SC 146.4.4.1 P 116 L 5 # 565
Laubach, Mark Broadcom

Comment Type TR Comment Status A EZ
"set by default", what is the default value?

SuggestedRemedy

Indicate the default value.

Response Response Status C

ACCEPT IN PRINCIPLE.
delete "set by default"

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

Comment Type E Comment Status A EZ
[EASY] Possible values are missing.

SuggestedRemedy

Add: Values: TRUE or FALSE

Response Response Status C

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 146
SC 146.4.4.1

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Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.4.4.2 P 117 L 28 # 323
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

CI 146 SC 146.4.4.2 P 117 L 29 # 479
Jones, Peter Cisco

Comment Type TR Comment Status A Editorial

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

Response Response Status C

ACCEPT IN PRINCIPLE.
replace "may" with "will"

CI 146 SC 146.4.4.3 P 118 L 14 # 584
Fitzgerald, Niall Acuitas Silicon

Comment Type T Comment Status A Big Ticket Item PMA

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Update 10BASE-T1L PHY Control State Diagram per Graber_3cg_02_0918.pdf

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

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type **E** Comment Status **A** EZ
 [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.

Response Response Status **C**
 ACCEPT.

CI **146** SC **146.4.4.3** P **118** L **50** # **441**
 Wienckowski, Natalie General Motors

Comment Type **E** Comment Status **A** EZ
 Inconsistency 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.

Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Use "part a" or "part b" consistentaly (change clause 147).

CI **146** SC **146.4.4.3** P **119** L **1** # **574**
 Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **R** Big Ticket Item **EEE**

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.

Response Response Status **C**
 REJECT.
 Comment offers no proposal for implementing symmetric LPI in the draft.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.4.4.3** P **119** L **1** # **582**
 Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **A** Big Ticket Item **EEE**

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
 Add additional arc out of SEND SLEEP and correct arc (missing "+") from SEND REFRESH to SEND WAKE as shown on slide 5 of graber_3cg_06a_0818.pdf

CI **146** SC **146.4.5** P **120** L **1** # **575**
 Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **A** Big Ticket Item **EEE**

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
 In figure 146-16, change condition
 tx_mode = SEND_Z
 from LINK DOWN to LINK UP states

to:
 (tx_mode = SEND_Z) * (loc_lpi_req = FALSE).

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.5.1** P **120** L **53** # **480**
Jones, Peter Cisco

Comment Type **TR** Comment Status **A** PMA Electrical

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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Change "may" to "can"

CI **146** SC **146.5.1** P **121** L **1** # **484**
Jones, Peter Cisco

Comment Type **TR** Comment Status **A** PMA Electrical

The sentence "Additional tests may be needed to verify EMC performance in various configurations, applications, and conditions." adds no value

SuggestedRemedy

make proposed change

Response Response Status **W**

ACCEPT IN PRINCIPLE.
delete "Additional tests may be needed to verify EMC performance in various configurations, applications, and conditions."

CI **146** SC **146.5.1.1** P **121** L # **482**
Jones, Peter Cisco

Comment Type **TR** Comment Status **A** Big Ticket Item Safety

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Editorial license to remove all instances referring to "customer/supplier agreements" in the document.

CI **146** SC **146.5.1.1** P **121** L # **483**
Jones, Peter Cisco

Comment Type **TR** Comment Status **A** PMA Electrical

Change "RF CM noise may be tested according" to "RF CM noise shall be tested according"

SuggestedRemedy

make proposed change

Response Response Status **W**

ACCEPT IN PRINCIPLE.
change "may be tested" to "can be tested"

CI **146** SC **146.5.1.1** P **121** L **10** # **392**
Jones, Chad Cisco

Comment Type **TR** Comment Status **A** Big Ticket Item PMA

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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Accommodated by 482 (remove all "customer/supplier agreement" references)

CI **146** SC **146.5.1.2** P **121** L **14** # **481**
Jones, Peter Cisco

Comment Type **TR** Comment Status **A** PMA Electrical

Change "may be tested according" to " shall be tested according"

SuggestedRemedy

make proposed change

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Change "may be tested" to "can be tested"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.5.2** P **121** L **20** # **670**
Donahue, Curtis UNH-IOL

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

Change "sub clause" to "subclause".

SuggestedRemedy

Change "sub clause" to "subclause".

Response Response Status **C**

ACCEPT.

CI **146** SC **146.5.2** P **121** L **20** # **393**
Jones, Chad Cisco

Comment Type **TR** Comment Status **A** PMA Electrical

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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Replace,

"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."

with, "The test modes described in this subclause are provided to allow testing of the transmitter waveform, transmitter distortion, transmitter jitter, and transmitter droop."

Insert, "Test modes 1 through 3 shall be implemented as follows." after the revised sentence above.

CI **146** SC **146.5.3** P **121** L **40** # **672**
Donahue, Curtis UNH-IOL

Comment Type **E** Comment Status **A** PMA Electrical

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".

Response Response Status **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.5.3** P **121** L **121** # **394**
Jones, Chad Cisco

Comment Type **ER** Comment Status **A** PMA Electrical

"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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Replace, "The test fixture shown in Figure 146-17, or its equivalent, is being used in the stated respective tests for measuring the transmitter specifications."

with,

"The test fixture shown in Figure 146-17, or its equivalent, is used for measuring the transmitter specifications in 146.5.4."

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

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

Resistor isn't aligned properly

SuggestedRemedy

Replace figure with the figure from 147.5.4.1

Response Response Status **C**

ACCEPT.

CI **146** SC **146.5.4** P **122** L **28** # **395**
Jones, Chad Cisco

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

"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'.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
replace "section" with <cross-ref> "146.5.4"

CI **146** SC **146.5.4.1** P **122** L **32** # **568**
Laubach, Mark Broadcom

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Replace "45.2.1.174a.4 Transmit voltage amplitude control" with "45.2.1.174a.4 Transmitter output voltage control".

Replace "transmit voltage amplitude control" with "transmitter output voltage control" on line 32, page 36 in Table 45-142a.

Replace "transmit voltage amplitude" with "transmitter output voltage" on line 21, page 37.

Replace "transmit driving level" with "transmitter output voltage" on line 40, page 122.

Grant editorial license to make any other changes to harmonize.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.5.4.1** P **122** L **32** # **485**
 Jones, Peter Cisco

Comment Type **TR** Comment Status **R** PMA Electrical

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

Response Response Status **W**

REJECT.
 while text describing how to choose the voltage level might be useful, text explaining why we need it is out of scope.

CI **146** SC **146.5.4.1** P **122** L **37** # **671**
 Donahue, Curtis UNH-IOL

Comment Type **T** Comment Status **A** Big Ticket Item TX Level

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Accommodated by 723.

CI **146** SC **146.5.4.1** P **122** L **42** # **567**
 Laubach, Mark Broadcom

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

"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 appropriate in PICS 146.11.4.2.2 page 142, line 3.

SuggestedRemedy

Suggest making the context clear.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
 Delete, "The default setting is Auto-Negotiation, if available."

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

Comment Type **T** Comment Status **A** PMA Electrical

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 approximately double the time, thus allowing for a higher droop).

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change "Transmitter output droop shall be tested using test mode 2 in combination with the test fixture shown in Figure 146-17. The transmitter output droop shall be less than 20 % taking the inner 9 bit times of the 10 bit times pulse duration." to "With the transmitter in test mode 2 and using the transmitter test fixture shown in Figure 146-17, the magnitude of both the positive and negative droop shall be less than 10%, measured with respect to an initial value at 133.3 ns after the zero crossing and a final value at 800 ns after the zero crossing." (Editor's note this is modeled after clause 97 and other PHY clauses, removing requirements on the user and specifying the initial value as AFTER the zero crossing to avoid the edge - it is suggested that clause 147 might be modeled on this).

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type **T** Comment Status **A** PMA Electrical
 [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).

Response Response Status **C**

ACCEPT IN PRINCIPLE.
 Adjust equations 146-6 to 146-9 (PSD mask for Clause 146) as shown on slide 3 of graber_3cg_02a_0818.pdf

Adjust figure 146-19 (PSD Mask) based on new equations.

Change power level in Clause 146.5.4.4 to 8.6 ± 1.2 dBm and 1.0 ± 1.2 dBm, for 2.4Vpp and 1.0Vpp respectively (slide 2 of same presentation)

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

Comment Type **T** Comment Status **A** sig Ticket Item PMA Electrical
 [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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Adapt the equations and figure according to page 2 and 3 of Graber_3cg_02a_0818.pdf. Editorial license granted to facilitate implementation as necessary.

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

Comment Type **E** Comment Status **A** EZ
 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.

Response Response Status **C**
 ACCEPT.

CI **146** SC **146.5.4.4** P **124** L **1** # **324**
 Yseboodt, Lennart Signify

Comment Type **E** Comment Status **A** Editorial
 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.

Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Graphs are generally imported, not usually drawn in frame. Editor to investigate and fix 'gray scale'.

CI **146** SC **146.5.4.4** P **124** L **10** # **95**
 Anslow, Pete Ciena

Comment Type **E** Comment Status **A** EZ
 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).

Response Response Status **C**
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.5.4.4** P **164** L **19** # **611**
Baggett, Tim Microchip

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

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

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Remove text 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."

Straw Poll:

I support:

A: Remove text from 146

B: Add text to 147

A:18

B:1

CI **146** SC **146.5.4.5** P **124** L **29** # **486**
Jones, Peter Cisco

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

Why is this in MBd instead of MHz

SuggestedRemedy

change to MHz

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change to MHz and review other occurrences. A "rate" is measured in Hz, whereas "baud" implies rate. Where text says "rate", "MHz" is appropriate. Where the text simply says states the rate (without using the word rate), such as "symbols are transmitted at x MBd", "MBd" is appropriate. IEEE Std 802.3-2018 is mixed on this and recent style has been to start using MBd - incorrectly in some cases.

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

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

Resistor isn't aligned properly

SuggestedRemedy

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

Response Response Status **C**

ACCEPT.

CI **146** SC **146.5.5.3** P **125** L **18** # **96**
Anslow, Pete Ciena

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

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)

Response Response Status **C**

ACCEPT.

CI **146** SC **146.5.6** P **125** L **23** # **673**
Donahue, Curtis UNH-IOL

Comment Type **TR** Comment Status **A** PMA Electrical

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Move text of subclause 146.5.6 to 146.5.4.1 as a new 2nd paragraph with editorial license to align the wording to indicate that 146.5.6 text applies with SEND_N and SEND_I.

(add note to subclause 146.5.6 which is now empty that it will be removed and renumbered later)

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI **146**
SC **146.5.6**

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

Comment Type E Comment Status A EZ

"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"

Response Response Status C

ACCEPT.

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

Comment Type T Comment Status A EZ

"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

Response Response Status C

ACCEPT.

CI 146 SC 146.7.1.1 P 129 L 9 # 325
Yseboodt, Lennart Signify

Comment Type E Comment Status R Editorial

Figure 146-19 is not drawn in Frame.

SuggestedRemedy

Redraw in Frame.

Response Response Status C

REJECT.

Such figures as this, inserted graphs from Matlab, are ordinary and common in IEEE Std 802.3

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

Comment Type E Comment Status A EZ

Equation (146-12) has an unnecessary "dB".

SuggestedRemedy

Remove the unnecessary "dB".

Response Response Status C

ACCEPT.

CI 146 SC 146.7.1.3 P 130 L 30 # 674
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A Editorial

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."

Response Response Status C

ACCEPT IN PRINCIPLE.

Explanation of derivation of delay added to resolve comment requesting details.

Change sentence to indicate informational by adding "Note that" given below.

Note that 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.

CI 146 SC 146.7.1.4 P 130 L 37 # 97
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.7.1.4** P **130** L **41** # **326**
Yseboodt, Lennart Signify
Comment Type **E** Comment Status **A** EZ
Table 146-5 does not use a minus symbol in the equations (4 occurrences).
SuggestedRemedy
Replace hyphen by minus symbol.
Response Response Status **C**
ACCEPT.

CI **146** SC **146.7.1.4** P **130** L **44** # **327**
Yseboodt, Lennart Signify
Comment Type **E** Comment Status **A** EZ
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.
Response Response Status **C**
ACCEPT IN PRINCIPLE.
Resolved by comment 98

CI **146** SC **146.7.1.4** P **130** L **44** # **98**
Anslow, Pete Ciena
Comment Type **E** Comment Status **A** EZ
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)
Response Response Status **C**
ACCEPT.
Resolve with comment#327

CI **146** SC **146.7.1.5** P **131** L **16** # **328**
Yseboodt, Lennart Signify
Comment Type **E** Comment Status **A** EZ
In Table 146-6 there is a missing horizontal lines between "(dB)" and "E1 E2 E3".
SuggestedRemedy
Add horizontal line.
Response Response Status **C**
ACCEPT.

CI **146** SC **146.7.1.5** P **131** L **19** # **329**
Yseboodt, Lennart Signify
Comment Type **E** Comment Status **A** EZ
Table 146-6: ".1 <= f <= 20"

.1 should be 0.1 per the IEEE style guide (see 12.2).
SuggestedRemedy
Change to 0.1.
Response Response Status **C**
ACCEPT IN PRINCIPLE.
Resolve with comment#99

CI **146** SC **146.7.1.5** P **131** L **19** # **99**
Anslow, Pete Ciena
Comment Type **E** Comment Status **A** EZ
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".
Response Response Status **C**
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.7.2.2** P **132** L **17** # **448**
 Ewen, John GlobalFoundries
 Comment Type **E** Comment Status **A** EZ
 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
 Response Response Status **C**
 ACCEPT.

CI **146** SC **146.8.1** P **133** L **9** # **617**
 Kolesar, Paul CommScope
 Comment Type **TR** Comment Status **A** Big Ticket Item MDI
 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 M111C1E1 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 M212C2E2/M313C3E3 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."

Response

Response Status **W**

ACCEPT IN PRINCIPLE.

Insert new paragraph after the existing 1st paragraph of 146.8.1 as follows:

146.8.1 MDI connectors

<EXISTING 1st PARA>

The mechanical interface to the balanced cabling is a 3-pin connector (BI_DA+, BI_DA-, and optional SHIELD) or alternatively a 2-pin connector with an optional additional mechanical shield connection which conforms to the link segment specification defined in 146.7.

<INSERT NEW PARAGRAPH>

Connectors meeting the requirements of IEC 63171-1 (CD) may be used as the mechanical interface to the balanced cabling for M111C1E1 environments. The plug connector is used on the balanced cabling and the MDI connector on the PHY. These connectors are depicted (for informational use only) in Figure 146-XXX and Figure 146-XXX. The assignment of PMA signals to connector contacts for PHYs is shown in XXX.

Editorial license granted to add IEC 63171-1 to 1.3 Normative References.

Straw Poll:

I support the proposed resolution (ACCEPT IN PRINCIPLE with the text above):

Y:22

N:5

A:3

(Alternative REJECT - No Consensus for Change - Encourage commenter to build consensus)

Y:4

N:19

A:5

MOTION: TO RESOLVE COMMENT 617 AS ACCEPT IN PRINCIPLE WITH THE NEW

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI **146**

SC **146.8.1**

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PARAGRAPH ABOVE.

M: M. Shariff

S: C. Diminico

Y:23

N:2

A:3

MOTION PASSES

Cl **146** SC **146.8.1** P **133** L **9** # **572**
Shariff, Masood Commscope

Comment Type **TR** Comment Status **A** Big Ticket Item MDI

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 M11C1E1 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 M21C2E2/M31C3E3 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."

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Resolved by comment 617

Cl **146** SC **146.8.3** P **133** L **31** # **675**
Donahue, Curtis UNH-IOL

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

Rogue equation number. should be centered with with equation (around line 26).

SuggestedRemedy

Fix equation number position

Response Response Status **C**

ACCEPT.

Cl **146** SC **146.8.4** P **133** L **33** # **423**
Jones, Chad Cisco

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

<change is to reference DC power rather than just PoDL> Break 146.8.4 into two sections.

REPLACE 146.8.4 with:

146.8.4 MDI DC Power 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 DC powering voltages, such as those in Clause 104, even if the device does not require power.

146.8.5 MDI fault tolerance

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

Cl **146**
SC **146.8.4**

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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.

CI 146	SC 146.8.4	P 133	L 41	# 449
Ewen, John		GlobalFoundries		
Comment Type	E	Comment Status	A	EZ
The phrase "The following table" is not a specific reference.				
SuggestedRemedy				
Replace "The following table" with "Table 146-8"				
Response		Response Status	C	
ACCEPT.				

CI 146 **SC 146.9** **P 133** **L 52** # 349
Yseboodt, Lennart Signify

Comment Type **TR** **Comment Status** **A** **Big Ticket Item Safety**
"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."

Response **Response Status** **W**
ACCEPT IN PRINCIPLE.

Insert Editor's note on line 51, page 133

Editor's Note - The equivalent text in other clauses is under consideration for revision by the maintenance task force. This clause should be revised to align with the output of that effort.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.9.1** P **133** L **52** # **396**
Jones, Chad Cisco

Comment Type **ER** Comment Status **A** Big Ticket Item Safety
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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Implement suggested remedy with editorial license to align with comment 349.

CI **146** SC **146.9.1** P **134** L **20** # **350**
Yseboodt, Lennart Signify

Comment Type **TR** Comment Status **A** Big Ticket Item Safety
"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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Accommodated by 482 (remove all "customer/supplier agreement" references)

CI **146** SC **146.9.1** P **134** L **20** # **397**
Jones, Chad Cisco

Comment Type **TR** Comment Status **A** Big Ticket Item Safety
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."

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Accommodated by 482 (remove all "customer/supplier agreement" references)

CI **146** SC **146.9.2** P **134** L **26** # **351**
Yseboodt, Lennart Signify

Comment Type **TR** Comment Status **A** Big Ticket Item Safety
"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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Replace "shall be routed" with "is expected to be routed" on P134 L26 and P169 L47

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.9.2.1** P **134** L **31** # **352**
Yseboodt, Lennart Signify

Comment Type **TR** Comment Status **A** Big Ticket Item Safety

"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 environments. 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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Replace "shall conform to" with "is expected to conform to" on P 134 L31.

Clause 147.10.2.1 is already aligned with this change.

CI **146** SC **146.9.2.1** P **134** L **35** # **729**
Maguire, Valerie The Siemon Company

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

IEC 60068-2-6/31 is shorthand for a series of two Standards. A search on IHS for "IEC 60068-2-6/31" yields a null return.

SuggestedRemedy

Replace, "IEC 60068-2-6/31" with "IEC 60068-2-6 and IEC 60068-2-31"

Response Response Status **C**

ACCEPT.

CI **146** SC **146.9.2.1** P **134** L **36** # **730**
Maguire, Valerie The Siemon Company

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

IEC 60068-2-1/2/14/27/30/38/52/78 is shorthand for a series of eight Standards. A search on IHS for "IEC 60068-2-1/2/14/27/30/38/52/78" yields a null return.

SuggestedRemedy

Replace, "IEC 60068-2-1/2/14/27/30/38/52/78" with "IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-30, IEC 60068-2-38, IEC 60068-2-52, and IEC 60068-2-78"

Response Response Status **C**

ACCEPT.

CI **146** SC **146.9.2.2** P **134** L **43** # **353**
Yseboodt, Lennart Signify

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

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.

Response Response Status **W**

REJECT.

Electromagnetic compatibility clauses similar to this are common in 802.3 PHY clauses.

This clause is modeled after those for automotive and industrial PHYs.

CI **146** SC **146.9.2.2** P **134** L **43** # **398**
Jones, Chad Cisco

Comment Type **TR** Comment Status **A** Big Ticket Item Safety

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."

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Accommodated by 482 (remove all "customer/supplier agreement" references)

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.9.2.2** P **134** L **48** # **399**
Jones, Chad Cisco

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

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:"

Response Response Status **C**
ACCEPT.

CI **146** SC **146.9.2.2** P **134** L **49** # **731**
Maguire, Valerie The Siemon Company

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

IEC 61326 is actually a family of six standards (e.g., IEC 61326-1, IEC 61326-2, etc.)

SuggestedRemedy

Replace "IEC 61326" with whichever of the six Standards are applicable and also add the reference(s) to clause 1.3.

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

Replace "IEC 61326" with "IEC 61326-1" and grant Editorial licence to add Standard to references.

CI **146** SC **146.9.2.2** P **134** L **49** # **732**
Maguire, Valerie The Siemon Company

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

A search on "NE21" does not produce an identifiable Standard

SuggestedRemedy

Replace "NE21" with its correct Standard name and also add the reference to clause 1.3.

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

Replace "NE21" with "NAMUR NE21" and grant Editorial licence to add Standard to references.

CI **146** SC **146.9.2.2** P **135** L **4** # **400**
Jones, Chad Cisco

Comment Type **TR** Comment Status **A** Big Ticket Item Safety

yet another inappropriate customer and supplier reference. Delete this.

SuggestedRemedy

delete: ", subject to agreement between the customer and the supplier"

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Accommodated by 482 (remove all "customer/supplier agreement" references)

CI **146** SC **146.11.2.1** P **136** L **21** # **100**
Anslow, Pete Ciena

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

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).

Response Response Status **C**
ACCEPT.

CI **146** SC **146.11.2.2** P **136** L **33** # **101**
Anslow, Pete Ciena

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

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

Response Response Status **C**
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146	SC 146.11.2.2	P 137	L 4	# 102
Anslow, Pete		Ciena		
Comment Type	E	Comment Status	A	EZ
"IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.				
<i>SuggestedRemedy</i>				
Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.				
Response		Response Status	C	
ACCEPT.				

CI 146	SC 146.11.3	P 137	L 25	# 103
Anslow, Pete		Ciena		
Comment Type	E	Comment Status	A	EZ
There are two items "EEE" and it is not clear what the difference between them is.				
<i>SuggestedRemedy</i>				
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 []"				
Response		Response Status	C	
ACCEPT.				

CI 146	SC 146.11.3	P 137	L 27	# 104
Anslow, Pete		Ciena		
Comment Type	E	Comment Status	A	EZ
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 "*".				
<i>SuggestedRemedy</i>				
In the table in 146.11.3, change:				
"AN" to "*AN"				
"MDIO" to "*MDIO"				
"FAST" to "*FAST"				
"RTDL" to "*RTDL"				
Response		Response Status	C	
ACCEPT.				

CI 146	SC 146.11.4.2.2	P 141	L 41	# 105
Anslow, Pete		Ciena		
Comment Type	E	Comment Status	A	EZ
The Item text for PMAE10 through PMAE23 is difficult to read due to being squashed.				
<i>SuggestedRemedy</i>				
Increase the width of the Item column and decrease the width of the Feature column to compensate.				
Response		Response Status	C	
ACCEPT.				

CI 146	SC 146.11.4.2.2	P 142	L 3	# 106
Anslow, Pete		Ciena		
Comment Type	T	Comment Status	A	EZ
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")				
<i>SuggestedRemedy</i>				
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.				
Response		Response Status	C	
ACCEPT.				

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.11.4.3** P **143** L **15** # **107**
 Anslow, Pete Ciena

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

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.

Response Response Status **C**
 ACCEPT.

CI **146** SC **146.11.4.4** P **143** L **32** # **108**
 Anslow, Pete Ciena

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

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

Response Response Status **C**
 ACCEPT.

CI **146** SC **146.11.4.4** P **143** L **34** # **109**
 Anslow, Pete Ciena

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

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.

Response Response Status **C**
 ACCEPT.

CI **146** SC **146.11.4.4** P **143** L **38** # **110**
 Anslow, Pete Ciena

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

"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.

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

Accommodated by #93.

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

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

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

Response Response Status **C**
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

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

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.

Response Response Status **C**
ACCEPT.

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

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

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."

Response Response Status **C**
ACCEPT IN PRINCIPLE. 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 may be easier to implement within a PHY IC as the hybrid within the PHY IC does not need to adapt to different external resistor values."

CI **146** SC **146.20.1.1** P **203** L **27** # **698**
Xu, Dayin Rockwell Automation

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

Repeteated text" DC Powering link sections" in Figure 146B-1

SuggestedRemedy

Delete one " DC Powering link sections"

Response Response Status **C**
ACCEPT.

CI **146** SC **146.20.1.1.1** P **204** L **16** # **420**
Jones, Chad Cisco

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

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"

Response Response Status **C**
ACCEPT.

CI **146** SC **146.20.1.2** P **204** L **32** # **421**
Jones, Chad Cisco

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

"The spur link sections provides power..." Spur Link sections PROVIDE power

SuggestedRemedy

CHANGE TO: "The spur link sections provide power.

Response Response Status **C**
ACCEPT.

CI **146** SC **146.20.B.1.1** P **203** L **26** # **686**
Donahue, Curtis UNH-IOL

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

Duplicated text "DC powering link sections".

SuggestedRemedy

Remove one of the "DC powering link sections" instances.

Response Response Status **C**
ACCEPT IN PRINCIPLE.
Resolve with comment#698

CI **146** SC **146A.1** P **199** L **34** # **737**
Maguire, Valerie The Siemon Company

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

Incomplete Standards reference.

SuggestedRemedy

Replace, "60079-11" with "IEC 60079-11"

Response Response Status **C**
ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI **146**
SC **146A.1**

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CI **146** SC **146A.1** P **201** L **1** # **727**
Maguire, Valerie The Siemon Company

Comment Type **E** Comment Status **A** Late
Incomplete Standards reference.

SuggestedRemedy

Replace, "60079-11" with "IEC 60079-11"

Response Response Status **C**
ACCEPT.

CI **146** SC **146B** P **205** L **11** # **254**
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** Comment Status **A** EZ
[EASY] No spaces between numbers and units in Figure 146B-2.

SuggestedRemedy

Add spaces between numbers and units in Figure 146B-2.

Response Response Status **C**
ACCEPT.

CI **146** SC **146B** P **205** L **12** # **255**
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** Comment Status **A** EZ
[EASY] dcpower

SuggestedRemedy

dc power (add space)

Response Response Status **C**
ACCEPT.

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

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

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"

Response Response Status **C**
ACCEPT.

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

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

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

Response Response Status **C**
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 146 SC Tabl 148-8 P 107 L 10 # 260
Andre, Szczepanek HSZ Consulting

Comment Type ER Comment Status A PCS

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

Response Response Status W

ACCEPT IN PRINCIPLE.

Copy definition from 146.4.4.1 (P116 L33) into 146.3.4.1.1

Cl 147 SC 147 P 145 L 1 # 659
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status R Big Ticket Item AUI

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 transistor 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.

Response Response Status W

REJECT.

Consensus not to change. Refer to motion 9 from Unconfirmed_minutes_3cg_0918.pdf

Cl 147 SC 147 P 145 L 1 # 660
Thompson, Geoff GraCaSI S.A.

Comment Type T Comment Status R General

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.

Response Response Status C

REJECT.

No consensus for change.

4B/5B is part of the baseline, having been selected for the following reasons:

- Increased alphabet gives space for special symbols (SSD, SYNC, ESD, ESDERR, BEACON) and future researvations
 - Increased bandwidth requirement (+25%) does not pose issues at this low rate, besides this helps reducing the size of the inductors required for PoDL.
 - Clock and data recovery primitive over 4B/5B is simple, which was in-line with project target (of having a low complexity PHY)
 - 5/4 clock ratio permits the usage of common 25MHz XTAL
- Information about the scrambler can be found at http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_scrambler.pdf

If commenter is not convinced, he is requested to argue against 4B/5B and bring forth a competing proposal

Cl 147 SC 147 P 164 L 4 # 13
Huszk, Gergely Kone

Comment Type E Comment Status A EZ

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

Response Response Status C

ACCEPT.

See also #244

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1 P L 19 # 636
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status A EZ
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.

Response Response Status C
ACCEPT.

CI 147 SC 147.1 P L 22 # 637
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status R ig Ticket Item PLCA_SCOPE
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.

Response Response Status W
REJECT.

PLCA maps existing MAC PLS primitives to MII, which is in-line with what an RS is supposed to do. PLCA is defined as a reconciliation sublayer, which has been considered part of a Physical Layer specification project. As long as this is the case, the text belongs in the subclause.

Straw Poll: I support rejecting this comment with the rationale above.
Y: 25
N: 1
A: 5

CI 147 SC 147.1 P 145 L 10 # 676
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A EZ
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."

Response Response Status C
ACCEPT.

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

Comment Type E Comment Status A EZ
[EASY] full/half-duplex

SuggestedRemedy
full-/half-duplex

Response Response Status C
ACCEPT.

CI 147 SC 147.1 P 145 L 16 # 488
Jones, Peter Cisco

Comment Type E Comment Status A EZ
Replace "allowing implementers to provide their own cabling" with "allowing implementers to specify their own cabling".

SuggestedRemedy
Make suggested change

Response Response Status C
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1 P 145 L 19 # 375
Matheus, Kirsten BMW AG

Comment Type E Comment Status A EZ
is "idle symbols" the right word?

SuggestedRemedy

I suggest to use "idle time" or "idle period" or "IDLE"

Response Response Status C

ACCEPT.
Already dealt with by #677

CI 147 SC 147.1 P 145 L 19 # 677
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A EZ

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.

Response Response Status C

ACCEPT.

CI 147 SC 147.1 P 145 L 19 # 489
Jones, Peter Cisco

Comment Type TR Comment Status A EZ

no idle symbols, replace "silent during idle symbols making it inherently" with "silent during idle making it inherently"

SuggestedRemedy

Make suggested change

Response Response Status C

ACCEPT IN PRINCIPLE. Already dealt with by #677

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

Comment Type E Comment Status A EZ
[EASY] . inherently energy efficient and without the need ..

SuggestedRemedy

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

Response Response Status C

ACCEPT. Already dealt with by #677

CI 147 SC 147.1 P 145 L 24 # 665
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A EZ
"multi-drop" should be "multidrop"

SuggestedRemedy

Change "multi-drop" to "multidrop"

Response Response Status C

ACCEPT.

CI 147 SC 147.1.1 P L 26 # 638
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status R Big Ticket Item AUI

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.

Response Response Status W

REJECT.

Consensus not to change. Refer to motion 9 from Unconfirmed_minutes_3cg_0918.pdf

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.1.1** P **145** L **30** # **282**
KIM, YONG NIO

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

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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Replace,
"Auto-Negotiation for 10BASE-T1S is defined in Clause 98. MII is defined in Clause 22. Auto negotiation is not defined for 10BASE-T1S PHY operating in half-duplex multidrop mode."

with,
"Auto-Negotiation for 10BASE-T1S is defined in Clause 98 and available only while not in multidrop mode. Selection between multidrop and point-to-point mode is made via the appropriate configuration bit. Optional MDIO is defined in Clause 45. Management is not optional. MII is defined in Clause 22."

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

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

[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)

Response Response Status **C**

ACCEPT.

CI **147** SC **147.1.2** P L **46** # **640**
Thompson, Geoff GraCaSI S.A.

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Already dealt with by #639

CI **147** SC **147.1.2** P L **46** # **639**
Thompson, Geoff GraCaSI S.A.

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

Non-normative marketing BS that adds nothing to the technical content of the standard.

SuggestedRemedy

Delete this paragraph.

Response Response Status **C**

ACCEPT.

CI **147** SC **147.1.2** P L **46** # **641**
Thompson, Geoff GraCaSI S.A.

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

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

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Change "perform out-of-band signaling" to "perform signaling"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1.2 P 86 L 146 # 561
D'Ambrosia, John Futurewei, Subsidiary

Comment Type E Comment Status R General

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

Response Response Status C

REJECT.

No consensus for change.

We have only a single PCS/PMA/PMD per clause and they are all contained in the same clause. We are not writing a standard for the entire 10 Mbps PHY family. We are writing just for single pair PCS/PMA/PMDs, with an optional RS.

CI 147 SC 147.1.2 P 145 L 36 # 401
Jones, Chad Cisco

Comment Type ER Comment Status A EZ

"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."

Response Response Status C

ACCEPT IN PRINCIPLE.

Change:

====

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.

====

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 in reach, with an effective rate of 10 Mb/s in each direction simultaneously.

====

Note: the 2 non-breaking white-spaces

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1.2 P 145 L 37 # 679
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A EZ

Clause 147 uses several similar terms to describe the channel the 10BASE-T1S is specified 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 scrubbing Clause 147 and making all references to the channel consistent.

Response Response Status C

ACCEPT IN PRINCIPLE.
Use "single balanced pair of conductors" everywhere

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

Comment Type E Comment Status A EZ

[EASY] . at least 15 meters .

SuggestedRemedy

. at least 15 meters cable .

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #401

CI 147 SC 147.1.2 P 145 L 41 # 689
Xu, Dayin Rockwell Automation

Comment Type E Comment Status A EZ

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 ."

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #679

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

Comment Type E Comment Status A EZ

[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)

Response Response Status C
ACCEPT IN PRINCIPLE.
Change:
====
least 8 PHYs, to a trunk up to at least 25 m.
====
to
====
least 8 PHYs to a trunk up to at least 25 m in reach.
====

Note: the 2 non-breaking white-spaces

CI 147 SC 147.1.2 P 145 L 41 # 430
Wienckowski, Natalie General Motors

Comment Type E Comment Status A EZ

still have twisted-pair

SuggestedRemedy

Change "single balanced twisted-pair copper cable" to "single balanced pair of conductors".

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #679

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

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1.2 P 145 L 46 # 152
 Lewis, Jon Dell EMC
 Comment Type E Comment Status A EZ
 Sentence doesn't add value to the specification and provides no new information to the reader.
 SuggestedRemedy
 Remove the sentence.
 Response Response Status C
 ACCEPT.
 Already dealt with by #639

CI 147 SC 147.1.2 P 145 L 46 # 200
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 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.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Already dealt with by #639

CI 147 SC 147.1.2 P 145 L 46 # 490
 Jones, Peter Cisco
 Comment Type TR Comment Status A EZ
 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
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Already dealt with by #639

CI 147 SC 147.1.2 P 145 L 46 # 678
 Donahue, Curtis UNH-IOL
 Comment Type E Comment Status A EZ
 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.
 Response Response Status C
 ACCEPT.
 Already dealt with by #639

CI 147 SC 147.1.2 P 145 L 46 # 380
 Jones, Chad Cisco
 Comment Type E Comment Status A EZ
 "low cost" should be "low-cost"
 SuggestedRemedy
 CHANGE TO: "low-cost"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Already dealt with by #639

CI 147 SC 147.1.2 P 146 L 2 # 201
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] . are contained in the PCS .
 SuggestedRemedy
 . are contained within the PCS .
 Response Response Status C
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.1.2** P **146** L **20** # **440**
Wienckowski, Natalie General Motors

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

TODO: Harmonize 147-1 to 1-1

Note: "Figure 1-1-IEEE 802.3 standard relationship to the ISO/IEC Open Systems Interconnection (OSI) reference model" does have shading (even more extensive and in different style)

CI **147** SC **147.2** P L **34** # **642**
Thompson, Geoff GraCaSI S.A.

Comment Type **TR** Comment Status **R** Big Ticket Item Primitives

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.

Response Response Status **W**

REJECT.

The reference is identical to that in c96 100BASE-T1. This is a reference to "Service primitives and interfaces", not MII.

Straw poll to reject comment with the above rationale:

Y: 9

N: 0

A: 21

CI **147** SC **147.2** P **147** L # **714**
Kabra, Lokesh Synopsys Inc

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

CRS & COL signals missing in Figure 147-2

SuggestedRemedy

Add CRS, COL signals towards MII in Fig 147-2

Response Response Status **C**

ACCEPT.

CI **147** SC **147.2** P **147** L **4** # **203**
Grabner, Steffen Pepperl+Fuchs GmbH

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Already dealt with by #376

CI **147** SC **147.2** P **147** L **4** # **204**
Grabner, Steffen Pepperl+Fuchs GmbH

Comment Type **T** Comment Status **D** Big Ticket Item AutoNeg

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 **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Proposed solution presented on

http://www.ieee802.org/3/cg/public/Sept2018/beruto_3cg_T1S_autoneg_r1.1.pdf
slide 6, 8-11.

CI **147** SC **147.2** P **147** L **4** # **202**
Grabner, Steffen Pepperl+Fuchs GmbH

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

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

SuggestedRemedy

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

Response Response Status **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI **147**
SC **147.2**

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CI 147 SC 147.2 P 147 L 6 # 376
Matheus, Kirsten BMW AG

Comment Type ER Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

TODO:

- Add bidi MDIO arrows to both 147-2 and 147-3
- Add BI_DA+ and BI_DA- (steal from 147-10)
- Add dashed COL, CRS and PCS

CI 147 SC 147.2 P 147 L 33 # 690
Xu, Dayin Rockwell Automation

Comment Type T Comment Status A EZ

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

Response Response Status C

ACCEPT.

CI 147 SC 147.3.1 P L 3 # 643
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status A EZ

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

Response Response Status W

ACCEPT IN PRINCIPLE.

WORK WITH PIER ON THIS

Change this:

====

PCS reset initializes all PCS functions. The PCS Reset function shall be executed whenever one of the following conditions occur:

a) Power on (see 36.2.5.1.3).

B) The receipt of a request for reset from the management entity.

PCS Reset shall set pcs_reset = ON while any of the above reset conditions holds true. All state diagrams take the open-ended pcs_reset branch upon execution of PCS Reset. The reference diagrams do not explicitly show the PCS Reset function.

====

to this:

====

PCS reset initializes all PCS functions. The PCS Reset function shall be executed whenever any of the following conditions occur:

a) Power on causes power_on = TRUE (see 36.2.5.1.3) while pcs_reset = OFF.

B) The receipt of a request for reset from the management entity (see 3.2291.15 in 45.2.3.58e.1), independently from the current state of pcs_reset.

All state diagrams take the open-ended pcs_reset branch upon execution of PCS Reset.

PCS Reset shall keep pcs_reset = ON until the complete execution of the PCS Reset function, after which it is set to pcs_reset = OFF. The reference diagrams do not explicitly show the PCS Reset function.

====

CI 147 SC 147.3.1 P 148 L 14 # 205
Grabner, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.2 P 152 L 34 # 693
 Xu, Dayin Rockwell Automation

Comment Type E Comment Status A EZ
 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"

Response Response Status C
 ACCEPT.

CI 147 SC 147.3.2 P 152 L 42 # 534
 Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber
 [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"

Response Response Status C
 ACCEPT IN PRINCIPLE.

Accept all changes marked in:
http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf

CI 147 SC 147.3.2 P 153 L 13 # 535
 Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber
 [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)"

Response Response Status C
 ACCEPT IN PRINCIPLE.

Accomodated by #534

CI 147 SC 147.3.2 P 153 L 14 # 536
 Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber
 [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"

Response Response Status C
 ACCEPT IN PRINCIPLE.

Accomodated by #534

CI 147 SC 147.3.2 P 153 L 21 # 537
 Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber
 [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)"

Response Response Status C
 ACCEPT IN PRINCIPLE.

Accomodated by #534

CI 147 SC 147.3.2 P 153 L 25 # 538
 Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber
 [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"

Response Response Status C
 ACCEPT IN PRINCIPLE.

Accomodated by #534

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.3.2** P **153** L **31** # **539**
Beruto, Piergiorgio Canova Tech Srl

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

[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"

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Accomodated by #534

CI **147** SC **147.3.2.1** P L **18** # **644**
Thompson, Geoff GraCaSI S.A.

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

On page 149, line 18 Replace,

"Following the deassertion of TX_EN, the PCS Transmit generates a special code ESD,
followed by either ESDOK or ESDERR when a transmit error is encountered."

with,

"Following the deassertion of TX_EN, the PCS Transmit generates a special code ESD.
When there is no transmit error, ESD is followed by ESDOK. When there is a transmit
error, ESD is followed by ESDERR. When a jabber condition is detected, ESD is followed
by ESDJAB."

CI **147** SC **147.3.2.1** P **149** L **5** # **402**
Jones, Chad Cisco

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Rename "Figure 147-4-PCS Transmit state diagram (1 of 2)" to "Figure 147-4-PCS
Transmit state diagram (part a)"

Rename "Figure 147-5-PCS Transmit state diagram (2 of 2)" to "Figure 147-5-PCS
Transmit state diagram (part b)"

CI **147** SC **147.3.2.1** P **149** L **13** # **691**
Xu, Dayin Rockwell Automation

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

Delete "a group of"

SuggestedRemedy

Change ". passes a group of two SYNC ." to ". passes two SYNC ..."

Response Response Status **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.2.1 P 149 L 14 # 206
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] replaces
 SuggestedRemedy
 replace (plural)
 Response Response Status C
 ACCEPT.

CI 147 SC 147.3.2.1 P 149 L 14 # 403
 Jones, Chad Cisco
 Comment Type E Comment Status A EZ
 "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"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Accomodated by #206

CI 147 SC 147.3.2.1 P 149 L 19 # 542
 Beruto, Piergiorgio Canova Tech Srl
 Comment Type T Comment Status A Jabber
 [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.
 SuggestedRemedy
 Replace "ESDERR" with "ESDERR / ESDJAB"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Accomodated by #534

CI 147 SC 147.3.2.1 P 149 L 21 # 207
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] The 10BASE-T1S .
 SuggestedRemedy
 The 10BASE-T1S PHY .
 Response Response Status C
 ACCEPT.

CI 147 SC 147.3.2.2 P L 44 # 645
 Thompson, Geoff GraCaSI S.A.
 Comment Type TR Comment Status R ig Ticket Item PLCA_SCOPE
 PLCA is out of scope for this project and a layer violation for a PHY project.
 SuggestedRemedy
 Remove this variable and its descriptive paragraph.
 Response Response Status W
 REJECT.
 See comment #637 for rationale.

CI 147 SC 147.3.2.2 P L 50 # 646
 Thompson, Geoff GraCaSI S.A.
 Comment Type TR Comment Status R ig Ticket Item PLCA_SCOPE
 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.
 Response Response Status W
 REJECT.
 See comment #637 for rationale.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.2.2 P 149 L 44 # 283
KIM, YONG NIO

Comment Type TR Comment Status A Big Ticket Item PLCA

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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Implement changes in Clause 147_r2p0_resolution.pdf tagged with comment #283.

Changes include revising the state machine and deleting plcs_en.

CI 147 SC 147.3.2.2 P 149 L 48 # 692
Xu, Dayin Rockwell Automation

Comment Type T Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change the definition of all references (also in figures) to pcs_reset and plca_en to use "TRUE or FALSE" instead of "ON or OFF"

Notes:

- In figures shortening from "signal = TRUE" to "pcs_reset", and "pcs_reset = FALSE" to "!pcs_reset" not only works but preferred (note: pcs_reset is just an example of a signal that now becomes "TRUE or FALSE")
- Clauses 146 and 148 are also affected

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

Comment Type E Comment Status A EZ

[EASY] Commas at end of lines [54 and next page 1] are missing.

SuggestedRemedy

Add 2 x a comma after "asserted".

Response Response Status C

ACCEPT IN PRINCIPLE.

- Add a period (dot) after "when a BEACON request is asserted", making it "when a BEACON request is asserted."
- Add a period (dot) after "COMMIT request is asserted", making it "COMMIT request is asserted."

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

Comment Type E Comment Status A EZ

[EASY] When this variable is set to TRUE it indicates .

SuggestedRemedy

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

Response Response Status C

ACCEPT.

CI 147 SC 147.3.2.2 P 150 L 21 # 569
Laubach, Mark Broadcom

Comment Type T Comment Status A PCS

What is the default value? (or is the intent "set by hardware"?)

SuggestedRemedy

Indicate the default value or fix the text.

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove "or set by default"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.3.2.2** P **150** L **41** # **541**
Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** Comment Status **A** Jabber
[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

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

Accomodated by #534

CI **147** SC **147.3.2.3** P **151** L **1** # **330**
Yseboodt, Lennart Signify

Comment Type **E** Comment Status **A** EZ
In Table 147-1 there are a number of empty cells.
Empty table shall be notes as intentionally empty with an em-dash.

SuggestedRemedy

Add em-dash to the empty cells.

Response Response Status **C**
ACCEPT.
Already dealt with by #14

CI **147** SC **147.3.2.3** P **151** L **3** # **14**
Huszak, Gergely Kone

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

Response Response Status **C**
ACCEPT.

CI **147** SC **147.3.2.3** P **151** L **39** # **540**
Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** Comment Status **A** Jabber
[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

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

Accomodated by #534

CI **147** SC **147.3.2.5** P **153** L **50** # **112**
Anslow, Pete Ciena

Comment Type **E** Comment Status **A** EZ
Spurious extra "figure" in "shift register is shown in figure Figure 147-6"

SuggestedRemedy
Delete "figure"

Response Response Status **C**
ACCEPT.

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

Comment Type **E** Comment Status **A** EZ
[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").

Response Response Status **C**
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type **E** Comment Status **A** EZ
 [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)

Response Response Status **C**
 ACCEPT.

CI **147** SC **147.3.2.6** P **154** L **14** # **545**
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** Comment Status **A** Jabber
 [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

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

Accomoded by #534

CI **147** SC **147.3.2.7** P **154** L **15** # **546**
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** Comment Status **A** Jabber
 [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.

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

Accomoded by #534

CI **147** SC **147.3.3.1** P **154** L **18** # **404**
 Jones, Chad Cisco

Comment Type **ER** Comment Status **A** PCS
 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"

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

Rename "Figure 147-8-PCS Receive state diagram (1 of 2)" to "Figure 147-8-PCS Receive state diagram (part a)"

Rename "Figure 147-9-PCS Receive state diagram (2 of 2)" to "Figure 147-9-PCS Receive state diagram (part b)"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.3.1 P 154 L 21 # 15
Huszak, Gergely Kone

Comment Type E Comment Status A EZ

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

SuggestedRemedy

Remove bold attribute from "Note:"

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #694

CI 147 SC 147.3.3.1 P 154 L 21 # 405
Jones, Chad Cisco

Comment Type E Comment Status A EZ

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."

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #694

CI 147 SC 147.3.3.1 P 154 L 21 # 694
Xu, Dayin Rockwell Automation

Comment Type E Comment Status A EZ

It is a little strange to have this note here because it does not specify anything actually.

SuggestedRemedy

Delete the note.

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ

[EASY] Transmit functions

SuggestedRemedy

Transmit function (there is only one function)

Response Response Status C

ACCEPT.

CI 147 SC 147.3.3.1 P 154 L 36 # 543
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Replace "ESDOK or ESDERR" with "ESDOK, ESDERR or ESDJAB"

Response Response Status C

ACCEPT IN PRINCIPLE.

Accommodated by #534

CI 147 SC 147.3.3.1 P 154 L 40 # 544
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

SuggestedRemedy

Replace "ESDOK" with "ESDOK, ESDJAB"

Response Response Status C

ACCEPT IN PRINCIPLE.

Accommodated by #534

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.3.3.1 P 154 L 40 # 213
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status R EZ
 [EASY] . ESDOK and ESDERR see 147.3.2.2.
 SuggestedRemedy
 . ESDOK, and ESDERR see 147.3.2.2. (add comma after ESDOK).
 Response Response Status C
 REJECT.
 Comma not required.

Cl 147 SC 147.3.3.1 P 154 L 154 # 491
 Jones, Peter Cisco
 Comment Type TR Comment Status A Jabber
 Change to use a consistent approach to jabber modeled after clause 10 as per previous comments.
 SuggestedRemedy
 Make suggested changes
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Accomodated by #534

Cl 147 SC 147.3.3.2 P 154 L 47 # 214
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] When it is set to TRUE it indicates .
 SuggestedRemedy
 When it is set to TRUE, it indicates . (add comma).
 Response Response Status C
 ACCEPT.

Cl 147 SC 147.3.3.2 P 154 L 52 # 533
 Beruto, Piergiorgio Canova Tech Srl
 Comment Type T Comment Status A AutoNeg
 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"
 Response Response Status C
 ACCEPT IN PRINCIPLE.

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."

Cl 147 SC 147.3.3.2 P 154 L 53 # 215
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [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.
 Response Response Status C
 ACCEPT.

Cl 147 SC 147.3.3.2 P 155 L 12 # 216
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] Received 5b symbol .
 SuggestedRemedy
 Received 5B symbol . (B should be capital).
 Response Response Status C
 ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type E Comment Status A EZ
[EASY] PCS Receive process

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.

- 155/19: Change "PCS Receive process" to "PCS Receive Function"
- 111/6: If accepted, inform Steffen about it

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

Comment Type E Comment Status A EZ
[EASY] Dot is missing at end of line.

SuggestedRemedy

Add "." after . PCS RX clock.

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ
[EASY] exclusive OR

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.

- Change all occurrences of "exclusive OR" to "exclusive-OR"
- Inform other editors, if other clauses are affected

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

Comment Type E Comment Status A EZ
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.

Response Response Status C

ACCEPT IN PRINCIPLE.

TODO: remove the quotation marks on binary numbers/vectors
Note: clauses 146 and 148 may also be affected

CI 147 SC 147.3.3.5 P 156 L 21 # 524
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A State Diagram
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.

Response Response Status C

ACCEPT.

CI 147 SC 147.3.3.5 P 156 L 21 # 519
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status A EZ
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.

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.3.3.5 P 156 L 21 # 525
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status A EZ

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".

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ

[EASY] RSCD * precnt != 9

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.
Stretch the bottom part of the arrow downwards and out both lines of the text above the arrow's bottom

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

Comment Type E Comment Status A EZ

[EASY] Font style of 0000 (left side) does not fit rest of document.

SuggestedRemedy

Change font style according to document style rules.

Response Response Status C

ACCEPT.

Cl 147 SC 147.3.3.6 P 157 L 54 # 547
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A Jabber

[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 by the means of MDIO register 3.2293 or similar functionality if MDIO is not implemented.

Response Response Status C

ACCEPT IN PRINCIPLE.

Accomoded by #534

Cl 147 SC 147.3.5 P L 10 # 647
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D PCS

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 Z

REJECT.

This comment was WITHDRAWN by the commenter.

The PHY will always correctly detect activity on the network (although it may not be able to distinguish receive mode collision from carrier detect). This is sufficient for correct CSMA/CD operation.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.5 P L 10 # 648
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status R Big Ticket Item Repeaters

Collision detect as described here purports to detect a collision between this station and one other station. It does not describe 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 constitutes a lack of completeness in the basic function of the specified device and therefore the draft. Restart the initial WG Ballot.

Response Response Status U

REJECT.
PHYs detect activity on the bus, specific detection of collision is not required, nor is the method.

Commenter indicates that his concern is reliable detection of activity with an arbitrary number of transmitters.

Straw Poll:
I support:
REJECT - PHYs detect activity on the bus, specific detection of collision is not required, nor is the method.
Y:7
N:2
A:11

I support:
ACCEPT. (commenter's proposed resolution is: Add collision detection based on energy received. Restart the initial WG Ballot.)
Y:0
N:9

TFTD

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

Comment Type E Comment Status A EZ

[EASY] . in the symbol sequence.

SuggestedRemedy

. within the symbol sequence.

Response Response Status C

ACCEPT.

CI 147 SC 147.3.6 P L 25 # 649
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status A Big Ticket Item CRS

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.

Response Response Status C

ACCEPT IN PRINCIPLE.
TODO: Carry out the changes in Clause 147_r2p0_resolution.pdf, Clause_148_r2p0_resolution.pdf, and Clause_22_r2p0_resolution.pdf (changes are marked with #649 in the right box.)

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

Comment Type E Comment Status A EZ

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)

Response Response Status C

ACCEPT.

CI 147 SC 147.3.7 P L 1 # 650
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status R Big Ticket Item PLCA_SCOPE

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.

Response Response Status W

REJECT.

See comment #637 for rationale.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type E Comment Status R EZ
[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).

Response Response Status C
REJECT.

No change needed.

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

Comment Type E Comment Status A EZ
[EASY] . than a 'N' code.

SuggestedRemedy

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

Response Response Status C
ACCEPT.

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

Comment Type E Comment Status A EZ
[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>)

Response Response Status C
ACCEPT.

CI 147 SC 147.4 P L 2 # 651
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status A EZ
The PHY doesn't provide "both" half-duplex and full duplex communication.

SuggestedRemedy

Change "both" to "either"

Response Response Status C
ACCEPT.

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

Comment Type E Comment Status A EZ
[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.

Response Response Status C
ACCEPT.

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

Comment Type T Comment Status A EZ
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)

Response Response Status C
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

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

Comment Type E Comment Status A EZ

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

SuggestedRemedy

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

Response Response Status C

ACCEPT.

CI 147 SC 147.4.2 P L 17 # 652
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove the single paragraph at 160/17-19

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

Comment Type T Comment Status A PMA

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).

Response Response Status C

ACCEPT IN PRINCIPLE.

TODO:

- Establish T4 in "Table 147-2-DME Timings" as follows: "T4 | Time from line driven state to high-Z or 0 V | - | 800 | - | ns

Note: mind the non-breaking white-spaces

- Squeeze T4 into "Figure 147-11-DME Encoding Scheme"

CI 147 SC 147.4.2 P 160 L 47 # 12
Huszkak, Gergely Kone

Comment Type E Comment Status A EZ

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"

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ

[EASY] comma before if is missing.

SuggestedRemedy

Add a comma before "if".

Response Response Status C

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 147
SC 147.4.2

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CI 147 SC 147.4.2 P 161 L 9 # 378
Matheus, Kirsten BMW AG

Comment Type E Comment Status A PMA
Is 0V confusing.

SuggestedRemedy

Use whatever is correct like "Line needs to be terminated at both ends".

Response Response Status C

ACCEPT IN PRINCIPLE.

Change this:

====

When operating in point-to-point mode, have the PMD drive a differential voltage of 0 V (BI_DA+ = BI_DA-).

====

To this:

====

When operating in point-to-point mode, the PMD drives a BI_DA+ and BI_DA- to the same voltage with 100 Ohm nominal impedance, so that their difference is 0 V.

====

Note: mind the 6 non-breaking white-spaces

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

Comment Type E Comment Status A EZ
[EASY] comma before if is missing.

SuggestedRemedy

Add a comma before "if".

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ
[EASY] . until next bit.

SuggestedRemedy

. until the next bit (add "the").

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ
[EASY] The PMA receive function .

SuggestedRemedy

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

Response Response Status C

ACCEPT.

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

Comment Type E Comment Status A EZ
[EASY] . the PMA Receive .

SuggestedRemedy

. the PMA Receive function .

Response Response Status C

ACCEPT.

CI 147 SC 147.4.4 P L 30 # 655
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status A EZ
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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove "147.4.4 PMA Clock recovery" and its content (effectively 161/28-32)

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.1 P 161 L 38 # 492
Jones, Peter Cisco

Comment Type TR Comment Status A PMA

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

Response Response Status C

ACCEPT IN PRINCIPLE.

Add the following sentence to the end of "147.5.1 EMC tests,

"Operational requirements of the transceiver during the test are determined by the manufacturer."

CI 147 SC 147.5.1 P 161 L 40 # 442
Wienckowski, Natalie General Motors

Comment Type E Comment Status D PMA

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 Z

REJECT.

This comment was WITHDRAWN by the commenter.

Text is being modified by another comment (#492) and #97 does not fully overlap with what are doing here

CI 147 SC 147.5.1.1 P 161 L 51 # 406
Jones, Chad Cisco

Comment Type TR Comment Status A PMA

another inappropriate occurrence of customer and supplier. "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 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."

Response Response Status W

ACCEPT IN PRINCIPLE.

Accommodated by 482 (remove all "customer/supplier agreement" references)

CI 147 SC 147.5.1.2 P 162 L 4 # 407
Jones, Chad Cisco

Comment Type TR Comment Status A EZ

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 ."

Response Response Status C

ACCEPT.

CI 147 SC 147.5.2 P 162 L 26 # 683
Donahue, Curtis UNH-IOL

Comment Type T Comment Status A Test Mode

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".

Response Response Status C

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 147
SC 147.5.2

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CI 147	SC 147.5.2	P 162	L 29	# 615
Baggett, Tim		Microchip		
Comment Type	T	Comment Status	R	Test Mode
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.				
Response	Response Status C			
REJECT.				
Withdrawn				

CI 147	SC 147.5.2	P 162	L 29	# 614
Baggett, Tim		Microchip		
Comment Type	T	Comment Status	A	Test Mode
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				
Response	Response Status C			
ACCEPT IN PRINCIPLE.				
Change this:				
====				
When test mode 3 is enabled, the PHY shall transmit continually a pseudo-random sequence of +1 and -1 symbols generated by PRBS7 with the generating polynomial of x^7+x^6+1 encoded using Differential Manchester Encoding (DME) as in 147.4.2.				
====				
to this:				
====				
When test mode 3 is enabled, the PHY shall transmit continually a pseudo-random sequence of positive and negative voltage levels, generated by the scrambler defined in 147.3.2.5 and encoded using DME as in 147.4.2.				
====				
Editorial license: In case this is the first use of DME, change "DME" to "Differential Manchester Encoding (DME)" in the proposed resolution				
Reason: scrambler's 17-bit polynomial is assumed to be 3 order of magnitudes better in randomness than that of the PRBS7, therefore more suitable for PSD measurements (cca. In the range of 100 Hz in resolution)				

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.5.2** P **162** L **33** # **680**
Donahue, Curtis UNH-IOL

Comment Type **T** Comment Status **A** Test Mode

This paragraph 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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change this:

====

When the multidrop option is supported and test mode 4 is enabled, the transmitter presents a high impedance to the line as specified in 147.4.2 for the 'I' symbol in multidrop mode.

====

to this:

====

PHYs supporting multidrop mode shall implement test mode 4. When test mode 4 is enabled and the PHY is configured for multidrop mode, the transmitter shall present a high impedance termination to the line as specified in 147.4.2 for the 'I' symbol when operating in multidrop mode.

PHYs not supporting multidrop mode are not required to implement test mode 4. When test mode 4 is enabled and the PHY is not configured for multidrop mode, the transmitter behavior is undefined and left up to the implementer.

====

CI **147** SC **147.5.3** P **162** L **36** # **681**
Donahue, Curtis UNH-IOL

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

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".

Response Response Status **C**

ACCEPT IN PRINCIPLE.

TODO:

1. Add the following text above the first paragraph in 147.5.3:

====

The following fixtures (illustrated by Figure 147-12, and Figure 147-14), or their functional equivalents, can be used for measuring the transmitter specifications described in 147.5.4.

====

2. Move Figure 147-12 and 147-14 to subclause 147.5.3.
3. Rename "Figure 147-12-Test fixture" to "Figure 147-12-Transmitter test fixture 1 for transmitter voltage, transmitter droop, and transmitter timing jitter"
4. Rename "Figure 147-14-Transmitter test fixture 2 for PSD mask" to "Figure 147-13-Transmitter test fixture 2 for power spectral density measurement"

Note: verify renumbering 147-14->147-13, which should happen because of point 2

Note: clause 146 also affected

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4 P 162 L 46 # 612
Baggett, Tim Microchip

Comment Type T Comment Status A PMA

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 $\pm$ 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 $\pm$ 0.1%" with "Rload $\pm$ 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.

Response Response Status C
ACCEPT.

CI 147 SC 147.5.4 P 162 L 46 # 619
Brandt, David Rockwell Automation

Comment Type T Comment Status A PMA

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 $\Omega \pm 0.1$ % 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 $\Omega \pm 0.1$ % resistive differential load connected to the transmitter output. Otherwise the transmitter shall meet the requirements of this section with a 100 $\Omega \pm 0.1$ % resistive differential load connected to the transmitter output.

Response Response Status C
ACCEPT.

CI 147 SC 147.5.4.1 P L 3 # 654
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.
TODO:
- "147.5.4.1 Transmitter output voltage" will have only "The transmitter output voltage shall be 1 V $\pm$ 20 % peak-to-peak differential."
- The new chapter "147.5.4.1.1 Transmitter tests" having "Transmitter output voltage shall be tested using test mode 1 in combination with the test fixture shown in Figure 147-12." and "Figure 147-12-Test fixture"
- Change "147.5.4.2 Transmitter output droop" to "147.5.4.1.2 Transmitter output droop"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4.1 P 163 L 6 # 11
Huszak, Gergely Kone
Comment Type E Comment Status A EZ
Resistor is off
SuggestedRemedy
Make it a polygon
Response Response Status C
ACCEPT.

CI 147 SC 147.5.4.1 P 163 L 6 # 16
Huszak, Gergely Kone
Comment Type E Comment Status A EZ
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
Response Response Status C
ACCEPT.

CI 147 SC 147.5.4.1 P 163 L 8 # 620
Brandt, David Rockwell Automation
Comment Type T Comment Status A EZ
Figure does not show different impedances for link segment and mixing segment
SuggestedRemedy
Replace:
100 $\Omega \pm 0.1\%$
With:
Transmitter Load
Response Response Status C
ACCEPT.

CI 147 SC 147.5.4.1 P 163 L 13 # 237
Graber, Steffen Pepperl+Fuchs GmbH
Comment Type T Comment Status A PMA
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).
Response Response Status C
ACCEPT.

CI 147 SC 147.5.4.1 P 163 L 23 # 331
Yseboodt, Lennart Signify
Comment Type E Comment Status A EZ
The title of Figure 147-12 is "Test fixture".
That isn't very descriptive / specific...
SuggestedRemedy
Change to "Transmitter output voltage test fixture"
Response Response Status C
ACCEPT IN PRINCIPLE.
Already dealt with by #681

CI 147 SC 147.5.4.1 P 163 L 30 # 236
Graber, Steffen Pepperl+Fuchs GmbH
Comment Type T Comment Status A PMA
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).
Response Response Status C
ACCEPT IN PRINCIPLE.
Already dealt with by #683

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4.3 P 164 L 4 # 622
Brandt, David Rockwell Automation

Comment Type T Comment Status A PMA
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.

Response Response Status C

ACCEPT IN PRINCIPLE.
Append the following to end of 147.5.4. "Unless otherwise specified, the specifications in 147.5.4.1 through 147.5.4.7 apply to transmitters in both point-to-point and multidrop mode, if supported."

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

Comment Type E Comment Status A EZ
[EASY] Figure 147-14 belongs to Clause 147.5.4.4.

SuggestedRemedy

Move Figure 147-14 into Clause 147.5.4.4.

Response Response Status C

ACCEPT IN PRINCIPLE.
It may already be there and we discussed to let Frame decide location of figures, even if it is a bit off sometimes (also given the fact that the references are OK)

CI 147 SC 147.5.4.3 P 164 L 10 # 621
Brandt, David Rockwell Automation

Comment Type T Comment Status A EZ
Figure does not show different impedances for link segment and mixing segment

SuggestedRemedy

Replace:
100 O

With:
50 O (multidrop mode) or 100 O

Response Response Status C
ACCEPT.

CI 147 SC 147.5.4.3 P 164 L 13 # 332
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ
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"

Response Response Status C
ACCEPT.

CI 147 SC 147.5.4.4 P 164 L 13 # 695
Xu, Dayin Rockwell Automation

Comment Type E Comment Status A EZ
The Figure 147-14 should not appear before the text.

SuggestedRemedy

Move the Figure 147-14 after line 20 page 164

Response Response Status C
ACCEPT IN PRINCIPLE.
Already dealt with by #238

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4.4 P 164 L 21 # 113
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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."

Response Response Status C

ACCEPT.

CI 147 SC 147.5.4.4 P 164 L 30 # 114
Anslow, Pete Ciena

Comment Type T Comment Status A PSD

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Accomdated by #239.

CI 147 SC 147.5.4.4.1 P 164 L 29 # 682
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A PSD

Missing upper bound on frequency for third section of equation.

SuggestedRemedy

Change "25 <= f" to "25 <= f <= 40"

Response Response Status C

ACCEPT IN PRINCIPLE.

Already dealt with by #239

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

Comment Type T Comment Status A Test Mode

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 $25 \leq f \leq 40$ and $0.3 \leq f \leq 40$ MHz.

Response Response Status C

ACCEPT IN PRINCIPLE.

Editorial license to specify upper PSD mask as $25 \leq f \leq 40$ on line 29 of equation (147-1) and $0.3 \leq f \leq 40$ MHz in text on line 31.

CI 147 SC 147.5.4.4.2 P 164 L 37 # 526
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status A PSD

Lower PSD mask is too low, achieving proper SNR to keep target BER of 10^{-10} is impossible under worst case noise conditions. Raising 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

Response Response Status C

ACCEPT.

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

Comment Type T Comment Status A sig Ticket Item PMA Electrical

An AWGN noise limit of -106 dBm/Hz with a BW of 20 MHz is specified here (which 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).

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "bandwidth of 20 MHz and magnitude of -106 dBm/Hz" to "bandwidth of 40 MHz and magnitude of -101 dBm/Hz"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4.6 P 165 L 36 # 623
Brandt, David Rockwell Automation

Comment Type T Comment Status A EZ
Test setup is not specific enough for repeatability

SuggestedRemedy

Replace:
Link Segment

With:
25 m Link Segment

Response Response Status C

ACCEPT.
Change "Link Segment" to "Link or Mixing Segment"

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

Comment Type E Comment Status A EZ
Resistor isn't aligned properly

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.
Note: use polygon

CI 147 SC 147.5.4.6 P 165 L 48 # 241
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status A EZ
Headline PMA Local Loopback (and assigned chapter number) are missing.

SuggestedRemedy

Add a new headline "PMA Local Loopback" and assign an appropriate chapter number (it may be reasonable to move this chapter after chapter 147.5.4.7).

Response Response Status C

ACCEPT IN PRINCIPLE.
TODO:
- Create "147.5.4.8 PMA Local Loopback"
- Move 4 paragraphs (165/48-166/10) to under that

CI 147 SC 147.5.4.6 P 165 L 48 # 624
Brandt, David Rockwell Automation

Comment Type E Comment Status A EZ
Topic is changed without new section header

SuggestedRemedy

Insert header and renumber:
147.5.4.7 PMA local loopback mode

Response Response Status C

ACCEPT IN PRINCIPLE.
See also #241, #696 and #408 and put "Already dealt with by" here

CI 147 SC 147.5.4.6 P 165 L 48 # 696
Xu, Dayin Rockwell Automation

Comment Type E Comment Status A EZ
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

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #241

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4.6 P 166 L 5 # 408
Jones, Chad Cisco

Comment Type E Comment Status A EZ

"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.

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #241

CI 147 SC 147.5.4.7 P 166 L 14 # 625
Brandt, David Rockwell Automation

Comment Type T Comment Status A PMA

Transmitter impedance is specified elsewhere

SuggestedRemedy

Replace:
In test mode 4, a transmitter supporting the multidrop mode presents a minimum of 10 kOhm 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.

Response Response Status C

ACCEPT.

CI 147 SC 147.5.4.7 P 166 L 15 # 242
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status A PMA

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.

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #625

CI 147 SC 147.6 P 166 L 19 # 243
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status A EZ

[EASY] 10BASE-T1S

SuggestedRemedy

A 10BASE-T1S PHY

Response Response Status C

ACCEPT.

CI 147 SC 147.7 P 166 L 27 # 493
Jones, Peter Cisco

Comment Type TR Comment Status A EZ

Change "such as industrial, automotive and automation controls" to "such as industrial, automotive and building automation controls"

SuggestedRemedy

Make suggested change

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #639

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.7.2 P 166 L 48 # 244
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status A EZ
20 (line break) MHz

SuggestedRemedy

20 MHz (add a non breakable space between 20 and MHz).

Response Response Status C
ACCEPT.
Already dealt with by #13

CI 147 SC 147.7.2 P 166 L 48 # 245
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status A EZ
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.

Response Response Status C
ACCEPT.

CI 147 SC 147.7.2 P 166 L 49 # 562
DiBiaso, Eric TE Connectivity

Comment Type ER Comment Status A EZ
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."

Response Response Status W
ACCEPT.
Already dealt with by #245

CI 147 SC 147.7.3 P 167 L 16 # 246
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status A EZ
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.

Response Response Status C
ACCEPT.

CI 147 SC 147.7.3 P 167 L 20 # 563
DiBiaso, Eric TE Connectivity

Comment Type ER Comment Status A Link Segment
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; $0.3 \leq f \leq 40$ ".

SuggestedRemedy

Replace 40 with 200 in line 20. New text should be:

"f is the frequency in MHz; $0.3 \leq f \leq 200$ ".

Response Response Status W
ACCEPT IN PRINCIPLE.

Accommodated by #246

CI 147 SC 147.8 P 167 L 24 # 247
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status R EZ
[EASY] . that meet the requirements .

SuggestedRemedy

. that meets the requirements . (add "s")

Response Response Status C
REJECT.
Media is the plural of medium, thus the plural form of the verb.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.8 P 167 L 28 # 414
Jones, Chad Cisco

Comment Type TR Comment Status A EZ

"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."

Response Response Status C

ACCEPT IN PRINCIPLE.

First sentence of the paragraph has already been dealt with by #494, so the following is proposed here: "A mixing segment is specified based on cabling that supports up to at least 8 nodes and 25 m in reach. Larger PHY count and/or reach may be achieved provided the mixing segment specifications in this subclause are met."

CI 147 SC 147.8 P 167 L 28 # 248
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status A EZ

[EASY] . based on automotive cabling supporting up to at least .

SuggestedRemedy

. based on automotive cabling, supporting up to at least . (add comma)

Response Response Status C

ACCEPT.

CI 147 SC 147.8 P 167 L 28 # 494
Jones, Peter Cisco

Comment Type TR Comment Status A EZ

Change "A mixing segment is specified based on automotive cabling" to "A mixing segment is specified based on cabling".

SuggestedRemedy

Make suggested change

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "A mixing segment is specified based on automotive cabling supporting up to at least eight nodes and 25 m of cabling." to "A mixing segment is specified based on cabling that supports up to at least 8 nodes and 25 m in reach."

Note: Handle with #414

CI 147 SC 147.8 P 167 L 29 # 249
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status A EZ

[EASY] . and reference points is shown .

SuggestedRemedy

. and reference points are shown . (plural)

Response Response Status C

ACCEPT.

CI 147 SC 147.8 P 167 L 33 # 626
Brandt, David Rockwell Automation

Comment Type T Comment Status A Mixing Segment

Edge termination values are not specified

SuggestedRemedy

Replace (2 times):
Edge termination

With:
Edge termination
100 O

Response Response Status C

ACCEPT IN PRINCIPLE.

Note: Mind the 2 omega symbols and the non-breaking white-spaces coming with them

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.8.1** P **168** L **1** # **250**
 Graber, Steffen Pepperl+Fuchs GmbH

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

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.

Response Response Status **C**

ACCEPT.

CI **147** SC **147.8.1** P **168** L **4** # **627**
 Brandt, David Rockwell Automation

Comment Type **T** Comment Status **A** Mixing Segment

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 O

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 O.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Use ohms symbol.

CI **147** SC **147.8.2** P **168** L **10** # **628**
 Brandt, David Rockwell Automation

Comment Type **T** Comment Status **A** Mixing Segment

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.

Response Response Status **C**

ACCEPT.

CI **147** SC **147.8.2** P **168** L **10** # **688**
 Donahue, Curtis UNH-IOL

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

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"

Response Response Status **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.8.3** P **168** L **17** # **629**
Brandt, David Rockwell Automation

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

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."

Response Response Status **C**

ACCEPT IN PRINCIPLE.

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."

CI **147** SC **147.9** P **168** L **24** # **251**
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** Comment Status **R** EZ

The MDI interface connector definition is still requiring shielded 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.

Response Response Status **C**

REJECT.
The text 147.9.1 does not require a shielded cable.

CI **147** SC **147.9.1** P L **22** # **653**
Thompson, Geoff GraCaSI S.A.

Comment Type **T** Comment Status **A** Big Ticket Item MDI

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)

Response Response Status **C**

ACCEPT IN PRINCIPLE.
See comments 617 and 618.

Straw poll:
I believe that the IEEE Std 802.3cg should ultimately include a reference to a mechanical connector specification(s), either as example(s) or a requirement(s).
Y:16
N:7
A:11 (5 need more information)

Straw poll:
I believe that the IEEE Std 802.3cg should ultimately include a reference to mechanical connector specification(s) without a "shall" requiring the connector(s).
Y:24
N:2
A:6

CI **147** SC **147.9.1** P **168** L **28** # **571**
Shariff, Masood Commscope

Comment Type **TR** Comment Status **R** Big Ticket Item MDI

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 M11C1E1 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 M21C2E2/M31C3E3 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."

Response Response Status **W**

REJECT.
See comment 618

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.9.1 P 168 L 28 # 618
Kolesar, Paul CommScope

Comment Type TR Comment Status R Big Ticket Item MDI

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."

Response Response Status W

REJECT.

No Consensus to Change.

MOTION:

Move to REJECT COMMENT 618 with rationale of NO CONSENSUS TO CHANGE

M:Gerrit den Besten

S:Chris Diminico

Y:17

N:1

A:12

MOTION PASSES

CI 147 SC 147.9.2 P 168 L 31 # 409
Jones, Chad Cisco

Comment Type E Comment Status A EZ

"based on imped- ance Equation (147-6) "

SuggestedRemedy

CHANGE TO: "based on THE impedance IN Equation (147-6)

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace "based on impedance" with "per"

CI 147 SC 147.9.2 P 168 L 33 # 684
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A EZ

Ctot is defined in the paragraph, but not actually used in Equation 147-6.

SuggestedRemedy

Remove references and language specific to Ctot.

Response Response Status C

ACCEPT.

CI 147 SC 147.9.2 P 168 L 37 # 630
Brandt, David Rockwell Automation

Comment Type E Comment Status A EZ

Numerator 1 is too large of a font

SuggestedRemedy

Match fonts in equation

Response Response Status C

ACCEPT IN PRINCIPLE.

Already dealt with by #333

CI 147 SC 147.9.2 P 168 L 37 # 333
Yseboodt, Lennart Signify

Comment Type E Comment Status A EZ

Equation 147-6 has a formatting issue (inflated '1').

SuggestedRemedy

Make '1' a normal size.

Response Response Status C

ACCEPT.

CI 147 SC 147.9.2 P 168 L 37 # 410
Jones, Chad Cisco

Comment Type ER Comment Status A EZ

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.

Response Response Status C

ACCEPT.

Already dealt with by #333

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 147
SC 147.9.2

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Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.9.2 P 168 L 38 # 17
Lusted, Kent Intel

Comment Type E Comment Status A EZ

The numerator in Equation 147-6 is usually large.

SuggestedRemedy

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

Response Response Status C

ACCEPT IN PRINCIPLE.
Already dealt with by #333

CI 147 SC 147.9.2 P 168 L 43 # 252
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status A MDI

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).

Response Response Status C

ACCEPT IN PRINCIPLE.

Add "NOTE - The implementer is cautioned that loading the mixing segment with multiple nodes with worst case capacitance at the same location on the mixing segment may cause the mixing segment to exceed its return loss specification." at line 44 as a new paragraph after "0.3 <= f <= 40."

CI 147 SC 147.9.3 P 168 L 45 # 422
Jones, Chad Cisco

Comment Type TR Comment Status A EZ

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.

Response Response Status C

ACCEPT IN PRINCIPLE.

TODO:

- Change "147.9.3 MDI fault tolerance" to "147.9.3 MDI PoDL voltage tolerance"

- Put the following text under "147.9.3 MDI fault 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 indefinitely. This requirement ensures that all devices tolerate PoDL voltages even if the device does not require power.

====

- Create new chapter "147.9.4 MDI fault tolerance"

- Put the following text under "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 indefinitely. Normal operation shall resume after all short circuits have been removed.

====

Note: mind the links

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.9.3 P 169 L 7 # 738
Baggett, Tim Microchip

Comment Type T Comment Status R Late

MDI impedance limit parameters need adjustment.

As PoDL will not be used, inductance should not be required, and therefore eliminated.

Also, additional capacitance may be needed to filter out higher frequency noise. A LPF with 3dB cutoff should be more than 125 MHz (10x the DME frequency) results in the need for 25.4pF of differential capacitance.

SuggestedRemedy

- Remove the Inductance parameter, or reduce L (minimum) to 0.
- Change Cnode to 25 pF (maximum)
- Change Ctot to 250 pF (maximum)

Response Response Status C

REJECT.

Withdrawn

CI 147 SC 147.9.3 P 169 L 7 # 364
Matheus, Kirsten BMW AG

Comment Type TR Comment Status A MDI

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.

Response Response Status W

ACCEPT IN PRINCIPLE.

Editorial license granted to implement changes on page 10 of griffiths_3cg_01a_0918.pdf

CI 147 SC 147.10.1 P 169 L 38 # 443
Wienckowski, Natalie General Motors

Comment Type T Comment Status A Big Ticket Item Safety

ISO 26262 does not apply to all automotive applications.

SuggestedRemedy

Change: All equipment subject to this clause and intended for motor vehicle applications shall conform to ISO 26262.

To: All equipment subject to this clause and intended for motor vehicle applications shall conform to ISO 26262 only if required by the given application.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "All equipment subject to this clause and intended for motor vehicle applications shall conform to ISO 26262. 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."

to

"All equipment subject to this clause shall conform to all applicable local, state, national, and application-specific standards."

CI 147 SC 147.10.1 P 169 L 39 # 411
Jones, Chad Cisco

Comment Type TR Comment Status A Big Ticket Item Safety

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."

Response Response Status W

ACCEPT IN PRINCIPLE.

Accommodated by 482 (remove all "customer/supplier agreement" references)

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.10.1 P 169 L 40 # 495
Jones, Peter Cisco

Comment Type TR Comment Status A Big Ticket Item Safety

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

Response Response Status C

ACCEPT IN PRINCIPLE.
Accommodated by 443.

CI 147 SC 147.10.2 P 169 L 42 # 496
Jones, Peter Cisco

Comment Type TR Comment Status A Big Ticket Item Safety

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.

Response Response Status C

ACCEPT IN PRINCIPLE.
Insert editorial note - "This text needs to be modified in the next revision to include references to in-building applications similar to existing LAN standards. Comments with text are solicited."

CI 147 SC 147.10.2 P 169 L 42 # 497
Jones, Peter Cisco

Comment Type TR Comment Status A EZ

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

Response Response Status C

ACCEPT.

CI 147 SC 147.10.2 P 169 L 45 # 412
Jones, Chad Cisco

Comment Type TR Comment Status D Safety

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 Z

REJECT.

This comment was WITHDRAWN by the commenter.

CI 147 SC 147.10.2.1 P 169 L 50 # 498
Jones, Peter Cisco

Comment Type TR Comment Status A Safety

This clause contains lists of automotive and industrial environments, but is missing building environments

SuggestedRemedy

Add appropriate standards

Response Response Status C

ACCEPT IN PRINCIPLE.

Delete content of 147.10.2.1 (not the header) and insert editorial note "This clause has been deleted, and will be removed with renumbering at draft 3.0."

CI 147 SC 147.10.2.1 P 170 L 9 # 734
Maguire, Valerie The Siemon Company

Comment Type E Comment Status A Late

Date in normative reference in 8023.cj is 2008.

SuggestedRemedy

Replace "ISO 7637-2:2008" with "ISO 7637-2"

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.10.2.1 P 170 L 11 # 733
Maguire, Valerie The Siemon Company

Comment Type E Comment Status A Late

IEC 60068-2-1/27/30/38/52/64/78 is shorthand for a series of seven Standards. A search on IHS for "1/27/30/38/52/64/78" yields a null return.

SuggestedRemedy

Replace, "60068-2-1/27/30/38/52/64/78" with "IEC 60068-2-1, IEC 60068-2-27, IEC 60068-2-30, IEC 60068-2-38, IEC 60068-2-52, IEC 60068-2-64, and IEC 60068-2-78"

Response Response Status C

ACCEPT.

CI 147 SC 147.10.2.1 P 170 L 17 # 735
Maguire, Valerie The Siemon Company

Comment Type E Comment Status A Late

IEC 60068-2-6/31 is shorthand for a series of two Standards. A search on IHS for "IEC 60068-2-6/31" yields a null return.

SuggestedRemedy

Replace, "IEC 60068-2-6/31" with "IEC 60068-2-6 and IEC 60068-2-31"

Response Response Status C

ACCEPT.

CI 147 SC 147.10.2.1 P 170 L 18 # 736
Maguire, Valerie The Siemon Company

Comment Type E Comment Status A Late

IEC 60068-2-1/2/14/27/30/38/52/78 is shorthand for a series of eight Standards. A search on IHS for "IEC 60068-2-1/2/14/27/30/38/52/78" yields a null return.

SuggestedRemedy

Replace, "IEC 60068-2-1/2/14/27/30/38/52/78" with "IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-30, IEC 60068-2-38, IEC 60068-2-52, and IEC 60068-2-78"

Response Response Status C

ACCEPT.

CI 147 SC 147.10.2.2 P 170 L 25 # 413
Jones, Chad Cisco

Comment Type TR Comment Status A EZ

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."

Response Response Status C

ACCEPT.

CI 147 SC 147.10.2.2 P 170 L 28 # 728
Maguire, Valerie The Siemon Company

Comment Type E Comment Status D Late

IEC is not part of the Normative Reference in the 802.3 main document

SuggestedRemedy

Replace, "IEC CISPR 25" with "CISPR 25"

Proposed Response Response Status Z

REJECT.

This comment was WITHDRAWN by the commenter.

No change to the document required.

Chief Editor to work with Natalie Wienckowski to create a Maintenance Request updating CISPR 25 references in the 802.3-2018 Standard to IEC CISPR 25 and check to see if other CISPR references need to be addressed, too.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.10.2.2 P 170 L 28 # 499
Jones, Peter Cisco

Comment Type TR Comment Status A EZ

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 test, add equivalent tests for industrial and building environments, or explain how CISPR 25 applies to industrial and building environments.

Response Response Status C

ACCEPT IN PRINCIPLE.
Remove 170/27-29, namely "A 10BASE-T1S PHY shall be tested according to IEC CISPR 25 test methods defined to measure the PHY's EMC performance in terms of radio frequency (RF) immunity and RF emissions."

CI 147 SC 147.11 P 170 L 31 # 500
Jones, Peter Cisco

Comment Type TR Comment Status D Delay

Add PAUSE reaction times

SuggestedRemedy

make suggested change

Proposed Response Response Status Z

REJECT.

This comment was WITHDRAWN by the commenter.

All this PAUSE (and other control solutions) is (are) for over 100Mbps

CI 147 SC 147.12 P 171 L 1 # 685
Donahue, Curtis UNH-IOL

Comment Type E Comment Status A PICS

Tell that lazy PICS editor to populate the PICS for Clause 147.

SuggestedRemedy

Give the PICS editor license to populate 147.12 as necessary.

Response Response Status C

ACCEPT IN PRINCIPLE.

Accommodated by #117.

CI 147 SC 147.12 P 171 L 1 # 501
Jones, Peter Cisco

Comment Type TR Comment Status A PICS

Complete PICS

SuggestedRemedy

Complete PICS

Response Response Status C

ACCEPT IN PRINCIPLE.

Accommodate by #501.

CI 147 SC 147.12.1 P 171 L 7 # 115
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

". 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 ."

Response Response Status C

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.12.2.2** P **171** L **35** # **116**
 Anslow, Pete Ciena

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

"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"

Response Response Status **C**

ACCEPT.

CI **147** SC **147.12.3** P **172** L **1** # **117**
 Anslow, Pete Ciena

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

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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Grant PICS editor license to populate 147.12 as necessary

CI **148** SC **148** P L # **556**
 Beruto, Piergiorgio Canova Tech Srl

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

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

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Apply modifications as in
http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_PLCA_status_r1.1.pdf slides 3 to 7.

Implementation of slide 8 has been changed, add also proposed resolution in Clause_45_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148** P **173** L # **287**
 KIM, YONG NIO

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

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 maintainance changes as a part of PLCA, or change PLCA to work with CL4 carrier sense as defined.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Accomodated by #649.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148** P **173** L **1** # **656**
Thompson, Geoff GraCaSI S.A.

Comment Type **TR** Comment Status **R** ig Ticket Item **PLCA_SCOPE**
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.

Response Response Status **W**
REJECT.

See comment #637 for rationale.

CI **148** SC **148** P **176** L **33** # **716**
Kabra, Lokesh Synopsys Inc

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

SuggestedRemedy

Delete 148.4.2.1, Correct Fig 148-3 to remove optional "SFD Detect TX" block

Response Response Status **C**
ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148,4.4.1.1** P **178** L **34** # **267**
KIM, YONG NIO

Comment Type **TR** Comment Status **A** PLCA
"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.

Response Response Status **W**
ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.1** P **173** L **1** # **598**
Lapak, Jeffrey UNH-IOL

Comment Type **T** Comment Status **A** PLCA
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 guarantee 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.

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

Page 173, line 20:

Replace, "its assigned unique node ID."

with, "its assigned node ID unique to the local collision domain."

Setting and management of node IDs is left to the management entity, which is outside the scope of this project.

If the node IDs are assigned incorrectly and two nodes have the same ID, then the feature degrades to CSMA/CD.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.1** P **173** L **5** # **589**
Healey, Adam Broadcom Inc.

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

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" in 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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.1** P **173** L **10** # **599**
KIM, YONG NIO

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

says "MII. are compatible with the gRS. ". The statement may become true if all appropriate 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 occurrence of similar statement. If this statement is kept (against this comment), clarify what is meant to be "compatible"

Response Response Status **W**

ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.1** P **173** L **14** # **657**
Thompson, Geoff GraCaSI S.A.

Comment Type **TR** Comment Status **A** ig Ticket Item PLCA_SCOPE

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.

Response Response Status **U**

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #657 in the right boxes.

NOTE: Intention was to specify that PLCA is not a replacement of CSMA/CD but instead it's a method that works in conjunction with CSMA/CD functions.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.1** P **173** L **15** # **284**
KIM, YONG NIO

Comment Type **TR** Comment Status **A** ig Ticket Item **PLCA_SCOPE**

"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. Second 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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #284 in the right boxes.

Notes:

WRT "When disabled, the system operates as specified in Clause 22" - CL22 has been modified to add PLCA support: Modifications to Clause 22 are not in effect when PLCA is not supported or not enabled. This is clearly stated in references text.

WRT to "PLCA is designed to work on top of CSMA/CD", this is resolved by #657

WRT to "PLCA uses Carrier sense and collision detect in completely different manner to perform alternative media access method": Carrier Sense has been used in other 802.3 standards to prevent MAC from transmitting, even when the medium is not busy. See also #287.

CI **148** SC **148.2** P **173** L **19** # **503**
Jones, Peter Cisco

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

Change "is granted, in turn, a single transmit opportunity" to "is granted transmit opportunities"

SuggestedRemedy

make suggested change

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #503 in the right boxes.

CI **148** SC **148.2** P **173** L **20** # **502**
Jones, Peter Cisco

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

Change "its assigned unique node ID" to "its assigned unique node ID (set via management control)".

SuggestedRemedy

make suggested change

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.2** P **173** L **25** # **504**
Jones, Peter Cisco

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

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"

Response Response Status **W**

REJECT.

This is descriptive text that explains what the specification actually does. The commenter is basically asking for a new feature which requires functional changes to the normative parts.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.2** P **173** L **25** # **286**
KIM, YONG NIO

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

"..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)

Response Response Status **W**

REJECT.
No consensus to change
Committer is referred to comment 598 with respect to node ID assignment and management operation.

CI **148** SC **148.2** P **173** L **26** # **505**
Jones, Peter Cisco

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

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. "

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

NOTE: the way Clause 148 is written provides only a single transmit opportunity, if you want to change this the whole specification has to be changed. This is only a description.

CI **148** SC **148.2** P **173** L **27** # **365**
Matheus, Kirsten BMW AG

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

"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

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Solved by #505

CI **148** SC **148.2** P **173** L **29** # **285**
KIM, YONG NIO

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

"a multidrop network is granted, in turn, a single transmit opportunity" makes little sense.

SuggestedRemedy

Either clarify or delete.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Accomodated by #505.

CI **148** SC **148.3** P **173** L **29** # **506**
Jones, Peter Cisco

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

Change "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

Response Response Status **C**

ACCEPT IN PRINCIPLE.
PLCA is an RS and interface with the MAC is done by the means of PLS primitives.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.3 P 173 L 38 # 118
 Anslow, Pete Ciena
 Comment Type E Comment Status A EZ
 "Clause 90" is an external cross-reference, so should be in forest green
 SuggestedRemedy
 Apply Character Tag "External" to "Clause 90"
 Response Response Status C
 ACCEPT.

CI 148 SC 148.3 P 174 L 27 # 253
 Graber, Steffen Pepperl+Fuchs GmbH
 Comment Type E Comment Status A EZ
 [EASY] "PMA" text is overlaying the Figure 148-1 description.
 SuggestedRemedy
 Remove "PMA" from line 27.
 Response Response Status C
 ACCEPT.

CI 148 SC 148.3 P 174 L 28 # 687
 Donahue, Curtis UNH-IOL
 Comment Type E Comment Status A EZ
 Looks like there is a strange image artifact in the title of Figure 148-1. "PMA" appears in small text overlaying "model and".
 SuggestedRemedy
 Remove rogue "PMA" text from figure
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Solved by #253

CI 148 SC 148.3 P 174 L 28 # 119
 Anslow, Pete Ciena
 Comment Type E Comment Status A EZ
 There is a spurious "PMA" just above the second line of the title of Figure 148-1
 SuggestedRemedy
 Delete it.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Solved by #253

CI 148 SC 148.3 P 174 L 28 # 697
 Xu, Dayin Rockwell Automation
 Comment Type E Comment Status A EZ
 A strange "PMA" text shown in the Figure Title
 SuggestedRemedy
 Clean up the title and delete "PMA"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Solved by #253

CI 148 SC 148.4.1 P 176 L 19 # 366
 Matheus, Kirsten BMW AG
 Comment Type E Comment Status A EZ
 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"
 Response Response Status C
 ACCEPT.
 In Figure 148-3 replace "rxcmd" with "rx_cmd"

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.4.1.1 P 175 L 6 # 288
KIM, YONG NIO

Comment Type TR Comment Status R PLCA

The Figure 148-2 does not belong in CL148. If it becomes desirable to have it, it should be added to CL22 and reviewed 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

Response Response Status W

REJECT.

The purpose of a RS is to specify mapping between MAC PLS primitives and MII signals, so the figure belongs to C148 which is an RS. See also Figure 90-2 (TSSI).

CI 148 SC 148.4.2 P 175 L 32 # 715
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status A PLCA

As per Clause 90.1, paragraph 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."

Response Response Status C

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.4.2 P 176 L # 290
KIM, YONG NIO

Comment Type TR Comment Status R PLCA

PLCA is not a generic RS.

SuggestedRemedy

Please correct and clarify.

Response Response Status W

REJECT.

PLCA is contained within the generic RS as shown in Figure 148-3. Commenter did not provide sufficient explanation or remedy.

Straw poll reject comment with rationale above:

Y: 14

N: 0

A: 13

CI 148 SC 148.4.2 P 176 L # 289
KIM, YONG NIO

Comment Type TR Comment Status R ig Ticket Item PLCA_SCOPE

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 convey 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 appropriate.

Response Response Status W

REJECT.

See comment #637 for rationale.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.4.3.4 P 177 L 48 # 120
Anslow, Pete Ciena

Comment Type E Comment Status A EZ

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".

Response Response Status C
ACCEPT.

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

Comment Type E Comment Status A EZ

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"

Response Response Status C
ACCEPT.

CI 148 SC 148.4.4.1 P 178 L 29 # 507
Jones, Peter Cisco

Comment Type TR Comment Status A EDITORIAL

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

Response Response Status C
ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.4.4.1.1 P 178 L 34 # 600
KIM, YONG NIO

Comment Type T Comment Status A PLCA

22.2.2.4 is green -- should 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 distributed between the two clauses.

Response Response Status C

ACCEPT IN PRINCIPLE.
Xref solved by #137

WRT CL22/CL148 split:
PLCA defines new MII codes (ignored when PLCA is not supported) in tables 22-1 and 22-2, which belong to CL22.
This is what have been done for EEE as well.

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

Comment Type E Comment Status A EZ

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)

Response Response Status C
ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.4.1.1** P **178** L **43** # **415**
Jones, Chad Cisco

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

"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.

Response Response Status **C**
ACCEPT.

CI **148** SC **148.4.4.1.1** P **178** L **34** # **601**
KIM, YONG NIO

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

MII == Media Independent Interface.

SuggestedRemedy

Replace all "MII interface" with "MII" (preferred) or "MI Interface" (not preferred)

Response Response Status **C**
ACCEPT IN PRINCIPLE.
Replace all occurrences of "MII interface" with "MII"

CI **148** SC **148.4.4.1.2** P **178** L **51** # **603**
KIM, YONG NIO

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

"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.

Response Response Status **W**
ACCEPT IN PRINCIPLE.

As stated in the same subclause "PHY specifications are free to map the COMMIT request to any suitable line coding as long as the requirement defined herein are met."

The purpose of this sentence is to ensure that whatever mapping is chosen in specific PHY clauses for the COMMIT request, this one is not interpreted as normal data (asserting RX_DV).

Suggested resolution should clarify this better.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

NOTE: CRS assertion is not to be specified here (it's implicit in CRS definition). See resolution of #649

CI **148** SC **148.4.4.1.2** P **178** L **51** # **602**
KIM, YONG NIO

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

"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.

Response Response Status **W**
ACCEPT IN PRINCIPLE.
Solved by #603 and #649

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.4.1.3** P **179** L **6** # **508**
 Jones, Peter Cisco
 Comment Type **TR** Comment Status **A** PLCA
 What is TO_TIMER skew, and why should I care? reword to explain what's really happening
 SuggestedRemedy
 make suggested change
 Response Response Status **W**
 ACCEPT IN PRINCIPLE.
 This text has been deleted by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI **148** SC **148.4.4.1.3** P **179** L **7** # **341**
 Yseboodt, Lennart Signify
 Comment Type **ER** Comment Status **A** PLCA
 "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."
 Response Response Status **W**
 ACCEPT IN PRINCIPLE.
 This text has been deleted by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI **148** SC **148.4.4.1.3** P **179** L **8** # **291**
 KIM, YONG NIO
 Comment Type **TR** Comment Status **A** PLCA
 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.
 Response Response Status **W**
 ACCEPT IN PRINCIPLE.
 This text has been deleted by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI **148** SC **148.4.4.2.3** P **179** L **39** # **342**
 Yseboodt, Lennart Signify
 Comment Type **ER** Comment Status **A** PLCA
 "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: ... "
 Response Response Status **W**
 ACCEPT IN PRINCIPLE.
 This text has been deleted by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI **148** SC **148.4.5.1** P **180** L **8** # **416**
 Jones, Chad Cisco
 Comment Type **ER** Comment Status **A** EDITORIAL
 "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.
 Response Response Status **C**
 ACCEPT.
 NOTE FOR EDITORS: resolve this comment after all others

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CI **148** SC **148.4.5.1** P **180** L **11** # **570**
Laubach, Mark Broadcom

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

"PLCA control variables". Where are these? Suggest xrefing to the appropriate subclause, e.g. 148.4.5.2. The more significant 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.

Response Response Status **W**

ACCEPT IN PRINCIPLE.
This text is not supposed to be normative, but rather a description of the normative state diagram in Fig 148-4 and 148-5.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.5.1** P **180** L **14** # **509**
Jones, Peter Cisco

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

Need to add some text stating that local_nodeID must be set before setting plca_en = O

SuggestedRemedy

make suggested change

Response Response Status **W**

REJECT.
Even if this is a very reasonable thing to do, making it normative would be vexatious.

In fact, this would prevent a user to assign IDs using an high level protocol while starting with PLCA enabled and all PHYs having the same local_nodeID.

As shown in
http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_mixing_PLCA_with_non_PLCA_enabled_nodes.pdf, a network featuring a mix of PLCA-enabled and non PLCA-enabled nodes (including the case of nodes having the same ID), behaves just like a plain CSMA/CD network.

CI **148** SC **148.4.5.1** P **180** L **23** # **511**
Jones, Peter Cisco

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

Why is this equation buried in text

SuggestedRemedy

Fix.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Separate equation from text and add reference to it in the original text instead.

CI **148** SC **148.4.5.1** P **180** L **27** # **510**
Jones, Peter Cisco

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

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

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

Additionally:
find and replace all occurrences of "MAX_ID" with "plca_max_id" in C148

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

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

This text has been deleted by changes marked #649 in Clause_148_r2p0_resolution.pdf.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.5.1** P **180** L **43** # **417**
Jones, Chad Cisco

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

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"

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Solved by #510

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

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

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

SuggestedRemedy

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

Response Response Status **C**

ACCEPT IN PRINCIPLE.
Solved by #510

CI **148** SC **148.4.5.1** P **181** L **20** # **512**
Jones, Peter Cisco

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

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

Response Response Status **W**

REJECT.
MAX_ID is not defined for nodes with local_nodeID != 0. Besides it's a variable, not a constant.

The reason for this is to have MAX_ID configured only on the PLCA coordinator node (i.e. the one with local_nodeID = 0) and just don't care on slave nodes, thus minimizing the required system configuration. State diagrams are also designed to take this into account.

CI **148** SC **148.4.5.1** P **181** L **30** # **520**
Beruto, Piergiorgio Canova Tech Srl

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

This text has been revised by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI **148** SC **148.4.5.1** P **181** L **50** # **604**
KIM, YONG NIO

Comment Type **TR** Comment Status **R** ig Ticket Item PLCA_SCOPE

PLCA Control state diagram (Fig 148-5) and related text seems to describe Token bus-like medium access control function (without details on how the token (BEACON) is initialized, how duplicate 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 appropriate changes to CRD and objectives list, if deemed needed.

Response Response Status **W**

REJECT.

See comment #637 for rationale.

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

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

Blank page

SuggestedRemedy

Remove it.

Response Response Status **C**

ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.4.5.1 P 183 L 11 # 557
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status A PLCA
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

Response Response Status C
ACCEPT IN PRINCIPLE.

This text has been revised by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI 148 SC 148.4.5.1 P 183 L 20 # 550
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D PLCA
[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 Z
REJECT.

This comment was WITHDRAWN by the commenter.

Implement changes in beruto_3cg_mixing_PLCA_with_non_PLCA_enabled_nodes_r1.2 excluding modifications to clause 45 registers.

Straw Poll:

A: I support the remedy of ACCEPT IN PRINCIPLE implementing the changes in beruto_3cg_mixing_PLCA_with_non_PLCA_enabled_nodes_r1.2 slides 6, 7, and 12 with editorial license remove clause 45 references.

B: I support a remedy of REJECT, No Consensus for Change, commenter encouraged to continue building consensus.

A:14

B:5

TFTD

Defer

plca_eri has been changed by #649

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #550 in the right boxes.

Straw Poll:

Y: 20

N: 4

A: 10

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.5.1** P **183** L **20** # **551**
 Beruto, Piergiorgio Canova Tech Srl

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

[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 **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

plca_eri has been changed by #649

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.5.1** P **183** L **23** # **558**
 Beruto, Piergiorgio Canova Tech Srl

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

Exit conditions from EARLY_RECEIVE state in Figure 148-5 are potentially ambiguous with respect to "RCV_TIMER done" and "plca_crs" expressions

SuggestedRemedy

In figure 148-5 append "" !RCV_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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

This text has been revised by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI **148** SC **148.4.5.2** P **184** L **45** # **513**
 Jones, Peter Cisco

Comment Type **TR** Comment Status **D** General

Aren't the "When MDIO is present" and "When MDIO is not present" cases the same from the 802.3 point of view? 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 **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

MDIO is optional. For this reason it's necessary to specify how signals maps when MDIO is implemented and when it's not. This avoids ambiguities between signals that are just undefined when MDIO is not present from the ones that have to be managed anyway, even if it's cumbersome.

CI **148** SC **148.4.5.2** P **184** L **52** # **532**
 Beruto, Piergiorgio Canova Tech Srl

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

[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"

Response Response Status **C**

ACCEPT.

CI **148** SC **148.4.5.3** P **185** L **3** # **516**
 Jones, Peter Cisco

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

Check MAX_ID range. Both 0 and 255 don't make sense. Range should be 1 - 254

SuggestedRemedy

make suggested change

Response Response Status **W**

ACCEPT IN PRINCIPLE.
 Solved by #527

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.5.4** P **185** L **35** # **515**
 Jones, Peter Cisco
 Comment Type **ER** Comment Status **A** EZ
 Change "Timer" to "The timer"
 SuggestedRemedy
 make suggested change
 Response Response Status **C**
 ACCEPT.

CI **148** SC **148.4.5.4** P **185** L **35** # **514**
 Jones, Peter Cisco
 Comment Type **TR** Comment Status **A** EZ
 Change "enough to allow any PHY that meets its own transmit opportunity to have the first nibble " to "enough to allow the transmitting PHY to have the first nibble "
 SuggestedRemedy
 make suggested change
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Fix typo in resolution.

Change "enough to allow any PHY that meets its own transmit opportunity to have the first nibble " to "enough to allow the transmitting PHY to have the first nibble "

CI **148** SC **148.4.5.4** P **185** L **41** # **140**
 Anslow, Pete Ciena
 Comment Type **E** Comment Status **A** EZ
 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"
 Response Response Status **C**
 ACCEPT.

CI **148** SC **148.4.5.4** P **185** L **45** # **529**
 Beruto, Piergiorgio Canova Tech Srl
 Comment Type **T** Comment Status **A** PLCA
 [MAX_ID] MAX_ID is not consistent to its intended usage.
 SuggestedRemedy
 Replace "TO_TIMER * MAX_ID" with "TO_TIMER * (MAX_ID + 1)"
 Response Response Status **C**
 ACCEPT.

CI **148** SC **148.4.6.1** P **186** L **1** # **418**
 Jones, Chad Cisco
 Comment Type **ER** Comment Status **A** EZ
 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.
 Response Response Status **C**
 ACCEPT.
 NOTE FOR EDITORS: resolve this comment after any other

CI **148** SC **148.4.6.1** P **186** L **26** # **530**
 Beruto, Piergiorgio Canova Tech Srl
 Comment Type **T** Comment Status **A** PLCA
 [MAX_ID] MAX_ID is not consistent to its intended usage.
 SuggestedRemedy
 Replace "TO_TIMER * MAX_ID" with "TO_TIMER * (MAX_ID + 1)"
 Response Response Status **C**
 ACCEPT.

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

Comment Type E Comment Status A EZ
Incorrect multiply symbol used

SuggestedRemedy
replace with correct multiply symbol (Ctrl-q 0)

Response Response Status C
ACCEPT.

CI 148 SC 148.4.6.1 P 186 L 41 # 119
Jones, Chad Cisco

Comment Type ER Comment Status A EZ
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 ."

Response Response Status C
ACCEPT.

CI 148 SC 148.4.6.1 P 187 L 25 # 522
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status A PLCA
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

Response Response Status C
ACCEPT IN PRINCIPLE.

This text has been revised by changes marked #649 in Clause_148_r2p0_resolution.pdf.

CI 148 SC 148.4.6.1 P 187 L 25 # 523
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status A PLCA
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

Response Response Status C
ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.4.6.1 P 187 L 33 # 613
Baggett, Tim Microchip

Comment Type T Comment Status A PLCA
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.

Response Response Status C
ACCEPT IN PRINCIPLE.
Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.6.1** P **187** L **45** # **521**
 Beruto, Piergiorgio Canova Tech Srl

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

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.

Response Response Status **C**

ACCEPT IN PRINCIPLE.
 Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.6.1** P **187** L **54** # **605**
 KIM, YONG NIO

Comment Type **TR** Comment Status **R** t Item **HALF_DUPLEX_802.1**

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 inconsistency in 802.1 MAC Services definition (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. 802.1 MAC Services maintenance change may be required be reviewed together with this issue.

Response Response Status **W**

REJECT.

PLCA is compatible with the clause 4 MAC as specified in 802.3. Maintenance on clause 4 or other Standards is outside the scope of this project. The P802.3cg Task Force Chair will forward this comment to 802.3 Maintenance for consideration.

CI **148** SC **148.4.6.1** P **188** L **22** # **552**
 Beruto, Piergiorgio Canova Tech Srl

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

[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 **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.6.4** P **189** L **45** # **553**
 Beruto, Piergiorgio Canova Tech Srl

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

[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 **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Proposed resolution in Clause_148_r2p0_resolution.pdf. Changes are marked with #comment number in the right boxes.

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

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

"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.

Response Response Status **C**

ACCEPT.

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

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

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.

Response Response Status **C**

ACCEPT.

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

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

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"

Response Response Status **C**

ACCEPT.

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

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

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.

Response Response Status **C**

ACCEPT.

CI **148** SC **148.5.4.4** P **192** L **50** # **531**
Beruto, Piergiorgio Canova Tech Srl

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

[MAX_ID] MAX_ID is not consistent to its intended usage.

SuggestedRemedy

Replace "TO_TIMER * MAX_ID" with "TO_TIMER * (MAX_ID + 1)"

Response Response Status **C**

ACCEPT.