

cal Layer Specifications and Management Parameters for Greater Than 1 Gb/s Automotive Ethernet 1st

CI **FM** SC **FM** P **2** L **1** # **1**
 Zimmerman, George CME Consulting/ADI,

Comment Type **E** Comment Status **D** EZ

Page 1 states that this is an amendment to IEEE Std 802.3-2018. The abstract is indeterminate of the date, saying 201X. It is unlikely this standard will hang over to be an amendment to 802.3-2021... the same 201x is also repeated on page 10.

SuggestedRemedy

Change 802.3-201X to 802.3-2018 on pages 2 and 10 (4 total occurrences)

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

I believe there are additional instances of this in the document which will also be corrected.

CI **FM** SC **FM** P **2** L **5** # **2**
 Zimmerman, George CME Consulting/ADI,

Comment Type **E** Comment Status **D** EZ

"copper" isn't really a keyword. 802.3bw included it - it is the only one.

SuggestedRemedy

Delete "copper" from the keywords

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **FM** SC **FM** P **11** L **0** # **3**
 Zimmerman, George CME Consulting/ADI,

Comment Type **E** Comment Status **D** EZ

Header says amendment to IEEE Std 802.3-2015. Should be 2018.

SuggestedRemedy

Change 802.3-2015 to 802.3-2018 in header on pages 11 through 30, and 41 through 49

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **30** SC **30.3.2.1.3** P **17** L **23** # **4**
 Zimmerman, George CME Consulting/ADI,

Comment Type **E** Comment Status **D** EZ

Meaning of TBD is unclear - took me a while to figure out what was needed - the modulation type (also lines 29 & 35)

SuggestedRemedy

Change "TBD" to "TBD Modulation"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **30** SC **30.6.1.1.5** P **18** L **28** # **6**
 Zimmerman, George CME Consulting/ADI,

Comment Type **E** Comment Status **D** EZ

Typo - description says "5BASE-T1" and "10BASE-T1" should be "5GBASE-T1" and "10GBASE-T1"

SuggestedRemedy

Change "5BASE-T1" to "5GBASE-T1" and "10BASE-T1" to "10GBASE-T1"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **44** SC **44.1.2** P **19** L **19** # **5**
 Zimmerman, George CME Consulting/ADI,

Comment Type **E** Comment Status **D** EZ

The order of the objectives list in 44.1.2 would have the media above the BER objective. This would put the 150.7 media all by itself. Also, some qualitative or specification outside of IEEE 802.3 is the usual description here, this would be the only cross-reference in 802.3

SuggestedRemedy

Change editorial instruction from "at the end of the list after h)" to "as new item h)" and renumber existing item h to item i)" ; change "i)" to "h)" ; and Change "over link segments compliant with 150.7" to "over shielded twisted-pair automotive cabling."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Also remove yellow highlight.

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CI 44 **SC 44.1.3** **P 19** **L 24** # **7**

Zimmerman, George CME Consulting/ADI,

Comment Type E **Comment Status D** *10Gb/s Introduction updates*

Editor's note asks for how to deal with the congested figure. Rather than create another figure, make the PCS on 10GBASE-T generic and explain below

SuggestedRemedy

Change "LDPC PCS" to "PCS1" (superscript 1) Add note 1 to figure, "For 10GBASE-T, PCS is LDPC PCS described in Clause 55, for 10GBASE-T1, PCS is TBD, described in Clause 150." Change "10GBASE-T" under "MEDIUM" to read "10GBASE-T / 10GBASE-T1" (editorial license to use 2 lines if necessary) - Remove editor's note.

Proposed Response **Response Status W**

PROPOSED ACCEPT IN PRINCIPLE.

CI 44 **SC 44.1.4.1** **P 20** **L 5** # **8**

Zimmerman, George CME Consulting/ADI,

Comment Type T **Comment Status D** *10Gb/s Introduction updates*

To implement this change you also need to rename the 10GBASE-T PCS to align with Figure 44-1. Recommend you name the "automotive PCS and PMA" differently - we don't name after application environment, but ratehr in a way that also aligns with Figure 44-1 (TBD for now).

SuggestedRemedy

Change "automotive PCS & PMA" to "TBD PCS and PMA" in editing instruction, and add to the editing instruction, "and change second-to-last column header from "55 Twisted-pair PCS & PMA" to "55 LDPC PCS & 4-Pair PMA".

Proposed Response **Response Status W**

PROPOSED ACCEPT IN PRINCIPLE.

The "M" should be in the lower right, not left, corner. Correct this as well.

CI 45 **SC 45.2.1** **P 21** **L 7** # **9**

Zimmerman, George CME Consulting/ADI,

Comment Type T **Comment Status X** *xGBASE-T1 registers*

Editing instruction and text for Table 45-3 are the placeholder in the editor's template. We won't make those changes. We will insert status control and other registers for the new BASE-T1 PHYs. Recommend we follow the "MultiGBASE-T register model from 802.3bq/bz"

SuggestedRemedy

Change editing instruction to "Change table 44-3 (as modified by IEEE P802.3cg-201x)adjusting reserved row 1.2103 through 1.2293 as needed and inserting 5 new rows after reserved row as shown. (new rows read) "1.2288 MultiGBASE-T1 control 45.2.1.191a 1.2289 MultiGBASE-T1 status 45.2.1.191b 1.2290 MultiGBASE-T1 training 45.2.1.191c 1.2291 MultiGBASE-T1 link partner training 45.2.1.191d 1.2292 MultiGBASE-T1 test mode 45.2.1.191e"

Proposed Response **Response Status W**

To be discussed.

CI 45 **SC 45.2.1.93a** **P 22** **L 20** # **13**

Zimmerman, George CME Consulting/ADI,

Comment Type E **Comment Status X** *xGBASE-T1 registers*

Template for new registers is there - need to add registers. See earlier comment on Table 45-3 for detail as to what content

SuggestedRemedy

Fill in new register names and add paragraphs for registers as shown in comment on Table 45-3. Leave bits and bit names TBD

Proposed Response **Response Status W**

To be discussed.

CI 45 **SC 45.2.1.185** **P 21** **L 51** # **10**

Zimmerman, George CME Consulting/ADI,

Comment Type E **Comment Status D** *EZ*

Table 45-149 seems to have gotten away from its editing instruction.

SuggestedRemedy

change property of 45.2.1.185 header and editing instruction to keep with next, or break page before, so that Table stays with section.

Proposed Response **Response Status W**

PROPOSED ACCEPT IN PRINCIPLE.

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CI 45 SC 45.2.1.185 P 22 L 11 # 11
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D EZ

Rows of Table 45-149 for 10BASE-T1S and 10BASE-T1L are shown as new inserts (underline) even though editing instruction says "as modified by 802.3cg".

SuggestedRemedy

remove underline from 10BASE-T1S and 10BASE-T1L rows

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.1.185.2 P 22 L 17 # 12
Zimmerman, George CME Consulting/ADI,

Comment Type T Comment Status D EZ

text does not agree with type selection table - text says 0010 = 2.5GBASE-T1, 011 = 5GBASE-T1, 0100 = 10GBASE-T1. Table says these are 0100, 0101 and 0110 respectively.

SuggestedRemedy

Change 0010, 0011, and 0100 on lines 17 & 18 to 0100, 0101, and 0110.

Proposed Response Response Status W

PROPOSED ACCEPT.

Table matches cg definitions, text was not updated to match.

CI 78 SC 78 P 23 L 3 # 14
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D EZ

Note to the editor is there, and it refers to clause 30.

SuggestedRemedy

Delete not to editors as appropriate

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

CI 78 SC 78.1 P 23 L 10 # 15
Zimmerman, George CME Consulting/ADI,

Comment Type T Comment Status D EEE

Much of the text for clause 78 is boilerplate and can be inserted.

SuggestedRemedy

Bring Table 78-1 into the draft with editing instruction "Insert new rows in Table 78-1 as modified by IEEE Std 802.3 as shown:" ..Add rows for 2.5GBASE-T1 Clause 149 (after 2.5GBASE-T), 5GBASE-T1 Clause 150 (after 5GBASE-T) and 10GBASE-T1 Clause 150 (after 10GBASE-T) to Table 78-1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

CI 78 SC 78.2 P 23 L 10 # 16
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D EEE

Adding in Table 78-2 will show the group what needs to be filled in

SuggestedRemedy

Bring 78.2 into the draft with the instruction "Insert new rows into Table 78.2 as modified by IEEE Std 802.3cg as shown" - Insert new rows for 2.5GBASE-T1 (after 2.5GBASE-T), 5GBASE-T1 (after 5GBASE-T) and 10GBASE-T1 (after 10GBASE-T), with TBD values for timing columns.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

CI 125 SC 125.1.3 P 29 L 21 # 17
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D cable naming

"single shielded twisted-pair copper cable" is a mouthful and ambiguous. It suggests that the shield is the singular element, not the twisted pair.

SuggestedRemedy

change "single shielded twisted-pair copper cable" to "shielded single twisted-pair copper cable" (lines 21 and 25) Editor to search draft and change other references (18 instances, starting on page 16) to align.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Review potential names in Editor's report, slide 6 and come to consensus.

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CI 125 SC 125.2.4.3 P 30 L 19 # 18
 Zimmerman, George CME Consulting/ADI,
 Comment Type E Comment Status D EZ
 missing hyphen in halfduplex
 SuggestedRemedy
 change halfduplex to half-duplex
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 125 SC 125.2.4.3 P 30 L 21 # 19
 Zimmerman, George CME Consulting/ADI,
 Comment Type E Comment Status D EZ
 typo - 5GBSE-T1 should be 5GBASE-T1
 SuggestedRemedy
 Change 5GBSE-T1 to 5GBASE-T1
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 149 SC 149 P 31 L 2 # 29
 Zimmerman, George CME Consulting/ADI,
 Comment Type E Comment Status D EZ
 PICS footnote is attached to the title of clause 149
 SuggestedRemedy
 Remove footnote from title of clause 149
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 Easier said than done!

CI 149 SC 149.1 P 31 L 14 # 20
 Zimmerman, George CME Consulting/ADI,
 Comment Type T Comment Status D EZ
 "automotive link segment" only shows up in the overview sections of clauses 149 & 150 (149.1, 149.1.2, 150.1, and 150.1.3) and is neither a defined 802.3 term nor used in the link segment description. It isn't actually any different than the link segment.

SuggestedRemedy
 On line 14: Delete "referred to as an automotive link segment, defined in 149.7." Change "The automotive link segment specifications defined in 149.7 may also be used for other applications that have similar link segment requirements." to "The link segment specifications defined in 149.7 were derived from automotive requirements but may also be used for non-automotive applications."

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 149 SC 149.1.2 P 30 L 34 # 31
 Zimmerman, George CME Consulting/ADI,
 Comment Type T Comment Status D EZ
 Support for Auto-Negotiation is required per the objectives. This text simply describes that and says it is clause 98 which is obvious, since clause 98 is already in the draft.

SuggestedRemedy
 Remove yellow from paragraph beginning "Auto-Negotiation..." (line 34-38)

Proposed Response Response Status W
 PROPOSED ACCEPT.
 Selecting the "confirm" option for this text.

CI 149 SC 149.1.2 P 31 L 41 # 21
 Zimmerman, George CME Consulting/ADI,
 Comment Type T Comment Status D EZ
 "automotive link segment" only shows up in the overview sections of clauses 149 & 150 (149.1, 149.1.2, 150.1, and 150.1.3) and is neither a defined 802.3 term nor used in the link segment description. It isn't actually any different than the link segment.

SuggestedRemedy
 Change "automotive link segment" to "link segment"

Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 149 SC 149.1.2 P 31 L 51 # 24
Zimmerman, George CME Consulting/ADI,

Comment Type T Comment Status D EZ

Most of the yellow text is pretty good generic, but some of it is very specific to 1000BASE-T1, particularly the description of the block encoding beginning at line 51 "where..."

SuggestedRemedy

Delete text from ", where 10 cycles... through end of paragraph (line 4 on page 32)

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 149 SC 149.1.2 P 33 L 5 # 26
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D EZ

Editor's note here is a good start on a list of decisions. This might be reformatted as a bulleted list of the things to be decided. We can then put those decisions in front of the task force.

SuggestedRemedy

Change editor's note to read: "Key decisions: * will this phy include an OAM? * do we need a scrambler? * are we committed to defining an MDI? * (any other decisions that come to mind on functional blocks)"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 149 SC 149.1.2 P 33 L 10 # 27
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D EZ

OAM text isn't marked yellow - it should be

SuggestedRemedy

Mark paragraph at line 10 beginning "The 2.5GBASE-T1 PHY may optionally support..." through end of paragraph (line 14) yellow

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 149 SC 149.1.2 P 33 L 17 # 28
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D EZ

Baud rate isn't marked yellow - it should be

SuggestedRemedy

Mark 750 MBd yellow

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 150 SC 150 P 41 L 2 # 30
Zimmerman, George CME Consulting/ADI,

Comment Type E Comment Status D EZ

PICS footnote is attached to the title of clause 150

SuggestedRemedy

Remove footnote from title of clause 150

Proposed Response Response Status W

PROPOSED ACCEPT.
Easier said than done, maybe.

CI 150 SC 150.1 P 41 L 16 # 22
Zimmerman, George CME Consulting/ADI,

Comment Type T Comment Status D EZ

"automotive link segment" only shows up in the overview sections of clauses 149 & 150 (149.1, 149.1.2, 150.1, and 150.1.3) and is neither a defined 802.3 term nor used in the link segment description. It isn't actually any different than the link segment.

SuggestedRemedy

On line 16: Delete "referred to as an automotive link segment, defined in 150.7." Change "The automotive link segment specifications defined in 150.7 may also be used for other applications that have similar link segment requirements." to "The link segment specifications defined in 150.7 were derived from automotive requirements but may also be used for non-automotive applications."

Proposed Response Response Status W

PROPOSED ACCEPT.

cal Layer Specifications and Management Parameters for Greater Than 1 Gb/s Automotive Ethernet 1st

CI 150 SC 150.1.3 P 42 L 1 # 23
 Zimmerman, George CME Consulting/ADI,
 Comment Type T Comment Status D EZ
 "automotive link segment" only shows up in the overview sections of clauses 149 & 150 (149.1, 149.1.2, 150.1, and 150.1.3) and is neither a defined 802.3 term nor used in the link segment description. It isn't actually any different than the link segment.
 SuggestedRemedy
 Change "automotive link segment" to "link segment"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 150 SC 150.1.3 P 42 L 11 # 25
 Zimmerman, George CME Consulting/ADI,
 Comment Type T Comment Status D EZ
 Most of the yellow text is pretty good generic, but some of it is very specific to 1000BASE-T1, particularly the description of the block encoding beginning at line 11 ",where..."
 SuggestedRemedy
 Delete text from ", where 10 cycles... through end of paragraph (line 16 on page 42)
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 150 SC 150.1.3 P 42 L 48 # 32
 Zimmerman, George CME Consulting/ADI,
 Comment Type T Comment Status D EZ
 Support for Auto-Negotiation is required per the objectives. This text simply describes that and says it is clause 98 which is obvious, since clause 98 is already in the draft.
 SuggestedRemedy
 Remove yellow from paragraph beginning "Auto-Negotiation..." (line 48-54)
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 Selecting the "confirm" option for this text.

CI 150 SC 150.1.3 P 43 L 20 # 33
 Zimmerman, George CME Consulting/ADI,
 Comment Type E Comment Status D EZ
 OAM text isn't marked yellow - it should be
 SuggestedRemedy
 Mark paragraph at line 20 beginning "5GBASE-T1 and 10GBASE-T1 PHYs may optionally support..." through end of paragraph (line 25) yellow
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 150 SC 150.7 P 44 L 31 # 34
 Zimmerman, George CME Consulting/ADI,
 Comment Type E Comment Status X 10G/5G cable
 "The single shielded twisted-pair copper cable supports an effective data rate of 10Gb/s in each direction simultaneously." only refers to the 10GBASE-T1 PHY, whereas this section refers to the 5GBASE-T1 PHY as well.
 SuggestedRemedy
 Change "10 Gb/s in each direction" to "5 Gb/s (5GBASE-T1) or 10 Gb/s (10GBASE-T1) in each direction"
 Proposed Response Response Status W
 A cable that supports 10GBASE-T1 will support 5GBASE-T1, by default. Is it necessary to explicitly state this?