Cl **148** *SC* **148.4.5.2** *P* **165** *L* **35** # 185

iyer, venkat — microchip

Comment Type **T** *Comment Status* **D** *AutoNeg*

"may" implies actions are part of specification. But PLCA variables negotiation is not detailed in spec

SuggestedRemedy

delete " may also be set..98"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "Generated by the management interface (register TBD). May also be set by the Auto-Negotiation protocol as described in Clause 98."
To: "Generated by management interface (or equivalent functionality if MDIO is not implemented)".

Insert "Editor's Note (to be removed prior to Working Group Ballot): Specify whether and how PLCA parameters may be negotiated (e.g., Clause 98)"

Cl **148** *SC* **148.4.5.2** *P* **165** *L* **43** # 186

iyer, venkat — microchip

Comment Type **T** *Comment Status* **D** *AutoNeg*

"may" indicates actions are part of specification. But PLCA variables negotiation is not detailed in spec

SuggestedRemedy

delete "MAX_ID may also be set..98"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Solved by #185

EDITOR: delete "MAX_ID may also be set..98"

Insert "Editor's Note (to be removed prior to Working Group Ballot): Specify whether and how PLCA parameters may be negotiated (e.g., Clause 98)"

Cl **146** *SC* **146.10** *P* **121** *L* **39** # 82

Xu, Dayin — Rockwell Automation

Comment Type **E** *Comment Status* **D** *Delay*

Delete "current implementation on evaluation board takes about 20 bit times maximum) "

SuggestedRemedy

Delete "current implementation on evaluation board takes about 20 bit times maximum) "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delete "current implementation on evaluation board takes about 20 bit times maximum) "
as per comment, as well as Editor's note at lines 31-35.

Cl **148** *SC* **0** *P* *L* # 143

Pandey, Sujan — NXP

Comment Type **T** *Comment Status* **D** *Editorial*

muyID should be renamed

SuggestedRemedy

local_ID

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
I would propose naming it nodeID (to be discussed with the group)

EDITOR: Search and replace all occurrences of "myID" variable with "nodeID"

Cl **146** *SC* **146.2** *P* **82** *L* **20** # 12

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **D** *Editorial*

Technology Dependent Interface

SuggestedRemedy

Remove the Technology Dependent Interface and associated primitives.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Technology dependent interface is used to communicate between the PHY and the Auto-Negotiation Function (Clause 98). See 98.4

Cl **146** *SC* **146.5.4.2** *P* **108** *L* **48** # 29

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *Editorial*

See also 146.5.5 for normalized test pattern. (there are no more normalized test patterns as they have been replaced by a PSD mask definition).

SuggestedRemedy

Please remove sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **147** *SC* **147.1.2** *P* **131** *L* **40** # 178

iyer, venkat — microchip

Comment Type **T** *Comment Status* **D** *Editorial*

use of 'can' doesn't conform to IEEE style manual creating ambiguity and possible conflict with objectives

SuggestedRemedy

The 10BASE-T1S PHY shall opererate using half-duplex point to point...Optionally, the PHY can operate using half-duplex multi-drop...Optionally, the PHY can operate using full-duplex....

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
- Change "The 10BASE-T1S PHY can operate" to "The 10BASE-T1S PHY may operate"
- Change "Additionally, the 10BASE-T1S PHY can operate" to "Additionally, the 10BASE-T1S PHY may operate"

Cl **147** *SC* **147.2.2.3** *P* **135** *L* **34** # 129

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *Editorial*

Suggest to add a page break before table 147-1 to avoid the split and improve readability

SuggestedRemedy

Add page break before table 147-1

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Discussed and rejected earlier (= current layout conforms standard clause formatting rules)

Cl **147** *SC* **147.2.3** *P* **139** *L* **2** # 107

Huszák, Gergely — Kone

Comment Type **E** *Comment Status* **D** *Editorial*

The term "the SSD symbol" does not harmonize with the rest of the clause

SuggestedRemedy

Change "the SSD symbol" to "an SSD"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "the SSD symbol" to "an SSD"
Note: this is editor's own comment, rooted in a discussion directly following D1.0 resolution

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Cl **147** *SC* **147.2.3** *P* **139** *L* **12** # 87

Xu, Dayin — Rockwell Automation

Comment Type **E** *Comment Status* **D** *Editorial*

SILENCE is also defined in 147.2.2.1, should be included here

SuggestedRemedy

Change "For the definition of pcs_reset, SYNC, ." to "For the definition of pcs_reset, SILENCE, SYNC, ."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
- Change "For the definition of pcs_reset, SYNC" to "For the definition of pcs_reset, SILENCE, SYNC"
- Change "147.2.2.1 and following." to "147.2.2.1."

Cl **147** *SC* **147.2.3** *P* **140** *L* **19** # 90

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *Editorial*

Rxn-4 is not consistant with "RX" variable definition

SuggestedRemedy

Change Rxn-4 to RXn-4; search other Rxs in Figure 147-5 and replace them with RXs

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change <all> case sensitive pattern "RXn" to "RXn" to keep consistentcy of the clause.
Note: at the time of comment resolution 8 occurrences were found

Cl **147** *SC* **147.2.5** *P* **142** *L* **18** # 108

Huszák, Gergely Kone

Comment Type **E** *Comment Status* **D** *Editorial*

The term "SSD symbol" does not harmonize with the rest of the clause

SuggestedRemedy

Change "SSD symbol" to "SSD"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "the SSD symbol" to "an SSD"
Note: this is editor's own comment, rooted in a discussion directly following D1.0 resolution

Cl **147** *SC* **147.3.3** *P* **145** *L* **32** # 180

iyer, venkat microchip

Comment Type **T** *Comment Status* **D** *Editorial*

SuggestedRemedy

replace symbol groups with symbols

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "5B symbol groups" to "5B symbols"

Cl **148** *SC* **148.1** *P* **155** *L* **11** # 158

Zimmerman, George CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"Currently, the 10BASE-T1S PHY in Clause 147 specifies support for PLCA Reconciliation sublayer." I think what this means is better stated as "The PLCA sublayer is specified for operation with the PHY defined in Clause 147 (10BASE-T1S)."

SuggestedRemedy

Replace "Currently, the 10BASE-T1S PHY in Clause 147 specifies support for PLCA Reconciliation sublayer." with "The PLCA sublayer is specified for operation with the PHY defined in Clause 147 (10BASE-T1S)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Replace "Currently, the 10BASE-T1S PHY in Clause 147 specifies support for PLCA Reconciliation sublayer." with "The PLCA sublayer is specified for operation with the PHY defined in Clause 147 (10BASE-T1S)."

Cl **148** *SC* **148.2** *P* **155** *L* **19** # 159

Zimmerman, George CME Consulting et al

Comment Type **E** *Comment Status* **D** *Editorial*

The Overview section should provide a description of the function that is defined, not discuss the goal of the clause itself. Descriptive text is needed.

SuggestedRemedy

Delte existing 148.2 text. Replace with "Editor's Note (to be removed prior to Working Group ballot): High level description of the operation and specification of PLCA is needed here (description only, no requirements)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Comment: that was copied from other clauses but I agree.

EDITOR: Delete existing 148.2 text. Replace with "Editor's Note (to be removed prior to Working Group ballot): High level description of the operation and specification of PLCA is needed here (description only, no requirements)"

Cl **148** *SC* **148.4.1** *P* **155** *L* **38** # 162

Zimmerman, George CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"specified elsewhere in this standard" - please say what clauses you are extending

SuggestedRemedy

Change "specified elsewhere in this standard" with "specified in Clauses ...." (whatever those clauses may be). If there are specific clauses clause 148 may or may not be used with, list that information too.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "specified elsewhere in this standard" with "specified in Clause 22"

Cl **148** *SC* **148.4.2** *P* **157** *L* *#* 161

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"The following provides an overview of RS PLCA operation. The actual specification of RS PLCA operation can be found in the respective RS clauses.
When TSSI support is also specified in the actual RS, the SFD detection of transmitted frames shall be detected after the PLCA variable delay line, as shown in Figure 148-2. This ensures the network latency measurement is not affected by the synchronization latency added by PLCA. No special attention is required for SFD detection of received frames." - several problems. first, what follows is not an overview of the RS PLCA operation. that shoudl be in the overview section and is missing. Second, the statement about TSSI is a stated as a requirement which should be called out separately - or should it be a recommentation? unclear.

SuggestedRemedy

Delete "The following provides... Respective RS clauses." Add new subclause "148.4.2.1 Operation with TSSI" and put sentences from "When TSSI support... detection of received frames" in it.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Delete "The following provides... Respective RS clauses." Add new subclause "148.4.2.1 Operation with TSSI" and put sentences from "When TSSI support... detection of received frames" in it.

Cl **148** *SC* **148.4.2** *P* **157** *L* **12** *#* 144

Pandey, Sujan — NXP

Comment Type **T** *Comment Status* **D** *Editorial*

delay line is not a good name

SuggestedRemedy

FIFO

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
FIFO suggests a specific implementation, I think we should be more generic.

EDITOR: replace "PLCA delay line" with "variable delay line"

Cl **148** *SC* **148.4.4.2.1** *P* **160** *L* **25** *#* 103

Xu, Dayin — Rockwell Automation

Comment Type **E** *Comment Status* **D** *Editorial*

text changes proposed

SuggestedRemedy

Change "When the PHY receives a BEACON indication from the master, it shall convery this information to the RS by asserting MII signals ." to "When the PHY receives a BEACON request from the master PHY, it shall indicate this information to the RS by asserting MII signals ."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

BEACON request is generated by RS via MII to have the PHY to send BEACON on the line.

BEACON indication is generated by the PHY via MII to notify the RS that a BEACON is being received

EDITOR: Change "When the PHY receives a BEACON indication from the master, it shall convey this information to the RS by asserting MII signals ." to "When the PHY receives a BEACON, it shall indicate this information to the RS by asserting MII signals"

Cl **148** *SC* **148.4.4.2.1** *P* **160** *L* **25** *#* 166

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"master PHY" - the terms MASTER and SLAVE are used repeatedly and even in this amendment to refer to loop timing. A different relationship is meant here for the optional PLCA RS. Using master and slave is not advised. In many places, like this one, the term is not needed. tag: PLCA_MASTER

SuggestedRemedy

Delete "from the master" at P 160 L25. In all other cases, term master can be omitted - see other comments tagged PLCA_MASTER

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Delete "from the master" at P 160 L25.

Cl **148** *SC* **148.4.4.2.2** *P* **160** *L* **34** # 104

Xu, Dayin — Rockwell Automation

Comment Type **E** *Comment Status* **D** *Editorial*

text changes proposed

SuggestedRemedy

Change "When the PHY receives a COMMIT indication from another PHY, it shall convery this information to the RS by asserting MII signals ." to "When the PHY receives a COMMIT request from another PHY, it shall indicate this information to the RS by asserting MII signals ."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

COMMIT request is generated by RS via MII to have the PHY to send COMMIT on the line.

COMMIT indication is generated by the PHY via MII to notify the RS that a COMMIT is being received

Change "When the PHY receives a COMMIT indication from another PHY, it shall convey this information to the RS by asserting MII signals" to "When the PHY receives a COMMIT from the line, it shall indicate this information to the RS by asserting MII signals"

Cl **148** *SC* **148.4.5.1** *P* **161** *L* **26** # 167

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

eliminate "master" "slave" - tag: PLCA_MASTER

SuggestedRemedy

Change "When PLCA functions are enabled, the master PHY (the one having myID variable set to 0) immediately" to "When PLCA functions are enabled, the PHY with myID set to 0 immediately"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
myID needs to be renamed as per comment #1

EDITOR: Change "When PLCA functions are enabled, the master PHY (the one having myID variable set to 0) immediately" to "When PLCA functions are enabled, the PHY with nodeID set to 0 immediately"

Cl **148** *SC* **148.4.5.1** *P* **161** *L* **28** # 168

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"Slave PHYs wait in RESYNC state until a BEACON is sent by the master PHY." - actually they wait until a BEACON is received. Tag: PLCA_MASTER

SuggestedRemedy

change "is sent by the master PHY" to "is received"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
change "is sent by the master PHY" to "is received"

Cl **148** *SC* **148.4.5.1** *P* **161** *L* **30** # 169

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"Both the slave PHYs and the master PHY are required to detect the end of the BEACON condition before resetting the transmit opportunity timer" - actually, All PHYs are required... Use of "are required" is discouraged too. Tag: PLCA_MASTER

SuggestedRemedy

Change "Both the slave PHYs and the master PHY are required to detect the end..." to "All PHYs are detect the end..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Fixed typo

Change "Both the slave PHYs and the master PHY are required to detect the end" to "All PHYs detect the end"

Cl **148** *SC* **148.4.5.1** *P* **161** *L* **35** # 170

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"while TPD is the worst-case propagation delay time between the master and all slave PHYs." actually, TPD is the worst-case propagation delay time from end-to-end of the mixing segment. Tag: PLCA_MASTER

SuggestedRemedy

Change "between the master and all slave PHYs" to "from end-to-end on the mixing segment."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Change "between the master and all slave PHYs" to "from end-to-end on the mixing segment."

Cl **148** *SC* **148.4.5.1** *P* **161** *L* **50** # 105

Xu, Dayin — Rockwell Automation

Comment Type **E** *Comment Status* **D** *Editorial*

text changes proposed

SuggestedRemedy

Change "assumes the indication of the PHY ." to "assumes the early receive indication of the PHY ."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "assumes the indication of the PHY" to "assumes the early receive indication of the PHY"

Cl **148** *SC* **148.4.5.1** *P* **162** *L* **6** # 171

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"The recovery procedure forces a slave PHY to wait for the next BEACON and a master PHY to wait for all slave PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON." eliminate master/slave Tag: PLCA_MASTER

SuggestedRemedy

Change "The recovery procedure forces a slave PHY to wait for the next BEACON and a master PHY to wait for all slave PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON." to "The recovery procedure forces the PHY with myID=0 to wait for all other PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON, and all other PHYs to wait for the next BEACON to be received."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
myID renamed to nodeID as per comment #1

Change "The recovery procedure forces a slave PHY to wait for the next BEACON and a master PHY to wait for all slave PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON." to "The recovery procedure forces the PHY with nodeID=0 to wait for all other PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON, and all other PHYs to wait for the next BEACON to be received."

Cl **148** *SC* **148.4.5.1** *P* **162** *L* **22** # 132

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **D** *Editorial*

Editor's note about figures 148-3 and 148-4 can now be removed

SuggestedRemedy

Remove first Editor's Note

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Remove first Editor's Note

Cl **148** *SC* **148.4.5.1** *P* **164** *L* **12** # 118

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *Editorial*

In figure 148-4 variable "framePending" should be renamed to "packetPending"

SuggestedRemedy

In figure 148-4 replace all occurrences of "framePending" with "packetPending"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
In figure 148-4 replace all occurrences of "framePending" with "packetPending"

Cl **148** *SC* **148.4.5.1** *P* **164** *L* **46** # 119

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *Editorial*

In transition from "NEXT_TS" state to "WAIT_TO" state there should be an "ELSE"

SuggestedRemedy

In figure 148-4 add "ELSE" to transition between NEXT_TS state to WAIT_TO state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
In figure 148-4 add "ELSE" to transition between NEXT_TS state to WAIT_TO state

Cl **148** *SC* **148.4.5.2** *P* **165** *L* **36** # 172

Zimmerman, George CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"The special value '0' is assigned to the master node, indicating the PHY shall generate BEACON signals. Values: integer value from 0 (master) to MAX_ID." - eliminate master/slave, and eliminate duplicate "shall" which is really contained in the state diagram. Tag: PLCA_MASTER

SuggestedRemedy

Change "The special value '0' is assigned to the master node, indicating the PHY shall generate BEACON signals. Values: integer value from 0 (master) to MAX_ID." to "The special value '0' is assigned to the PHY which generates BEACON signals. Values: integer value from 0 to MAX_ID."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Change "The special value '0' is assigned to the master node, indicating the PHY shall generate BEACON signals. Values: integer value from 0 (master) to MAX_ID." to "The special value '0' is assigned to the PHY which generates BEACON signals. Values: integer value from 0 to MAX_ID."

Cl **148** *SC* **148.4.5.2** *P* **165** *L* **41** # 173

Zimmerman, George CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"This parameter is only meaningful for the master PHY (myID = 0). For slave PHYs, MAX_ID is ignored." - eliminate master/slave Tag: PLCA_MASTER

SuggestedRemedy

Change "This parameter is only meaningful for the master PHY (myID = 0). For slave PHYs, MAX_ID is ignored." to "This parameter is only meaningful for the PHY with myID = 0, otherwise it is ignored."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
myID should be renamed as per comment #1

Change "This parameter is only meaningful for the master PHY (myID = 0). For slave PHYs, MAX_ID is ignored." to "This parameter is only meaningful for the PHY with nodeID = 0, otherwise it is ignored."

Cl **148** *SC* **148.4.5.4** *P* **166** *L* **11** # 174

Zimmerman, George CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"Represents the time for which the master PHY signals a BEACON condition." - isn't this timer the duration of the BEACON? - also eliminate master/slave Tag: PLCA_MASTER

SuggestedRemedy

Change "Represents the time for which the master PHY signals a BEACON condition." to "Times the duration of the BEACON signal."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "Represents the time for which the master PHY signals a BEACON condition." to "Times the duration of the BEACON signal."

Cl **148** *SC* **148.4.5.4** *P* **166** *L* **30** # 175

Zimmerman, George CME Consulting et al

Comment Type **T** *Comment Status* **D** *Editorial*

"During a recovery operation the master PHY needs to wait for all slave PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON request." - a BEACON is not a request, it is a BEACON, no? - also eliminate master/slave Tag: PLCA_MASTER

SuggestedRemedy

Change "During a recovery operation the master PHY needs to wait for all slave PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON request." to "During recovery, RECV_BEACON_TIMER times the period that all PHYs need to be silent before a new BEACON may be sent."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "During a recovery operation the master PHY needs to wait for all slave PHYs to be silent for at least RECV_BEACON_TIMER before sending a new BEACON request." to "During recovery, RECV_BEACON_TIMER times the period that all PHYs need to be silent

Cl **148** *SC* **148.4.6.1** *P* **168** *L* **1** # 122

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *Editorial*

Text formatting in figure 148-5 is not clear.

SuggestedRemedy

in figure 148-5 substitute "SIGNAL_STATUS ?
SIGNAL_ERROR if COL = TRUE
NO_SIGNAL_ERROR else" with "if COL = TRUE SIGNAL_STATUS <= SIGNAL_ERROR
else SIGNAL_STATUS <= NO_SIGNAL_ERROR"

substitute "CARRIER_STATUS ?
CARRIER_ON if plca_crs = TRUE
CARRIER_OFF else" with "if plca_CRS = TRUE CARRIER_STATUS <= CARRIER_ON
else CARRIER_STATUS <= CARRIER_OFF"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
in figure 148-5 substitute "SIGNAL_STATUS ?
SIGNAL_ERROR if COL = TRUE
NO_SIGNAL_ERROR else" with "if COL = TRUE SIGNAL_STATUS <= SIGNAL_ERROR
else SIGNAL_STATUS <= NO_SIGNAL_ERROR"

substitute "CARRIER_STATUS ?
CARRIER_ON if plca_crs = TRUE
CARRIER_OFF else" with "if plca_CRS = TRUE CARRIER_STATUS <= CARRIER_ON
else CARRIER_STATUS <= CARRIER_OFF"

Cl **148** *SC* **148.4.6.1** *P* **168** *L* **1** # 121

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *Editorial*

Figure 148-5 should be updated integrating changes in the yellow boxes

SuggestedRemedy

Replace figure 148-5 as in attached PDF

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace figure 148-5 as in Beruto_3cg_01_0318.pdf

Cl **148** *SC* **148.4.6.1** *P* **168** *L* **9** # 176

Zimmerman, George — CME Consulting et al

Comment Type **E** *Comment Status* **D** *Editorial*

Nomenclature is backwards in conditionals in state diagrams of clause 148, for example "SIGNAL_STATUS <= SIGNAL_ERROR IF COL = TRUE" should be " If COL = TRUE SIGNAL_STATUS <= SIGNAL_ERROR Else SIGNAL_STATUS <= NO_SIGNAL_ERROR"

SuggestedRemedy

Change format to if - then - else, and put complete assignments as "then" or "else" (see example in comment.) Do this for "NORMAL", "RECEIVE" and "TRANSMIT" states in Figures 148-5 and 148-6

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See resolutions to comments 122 and 123

in figure 148-5 substitute "SIGNAL_STATUS ?
SIGNAL_ERROR if COL = TRUE
NO_SIGNAL_ERROR else" with "if COL = TRUE SIGNAL_STATUS <= SIGNAL_ERROR
else SIGNAL_STATUS <= NO_SIGNAL_ERROR"

substitute "CARRIER_STATUS ?
CARRIER_ON if plca_crs = TRUE
CARRIER_OFF else" with "if plca_CRS = TRUE CARRIER_STATUS <= CARRIER_ON
else CARRIER_STATUS <= CARRIER_OFF"

Cl **148** *SC* **148.4.6.1** *P* **169** *L* **1** # 123

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *Editorial*

Text formatting in figure 148-6 is not clear.

SuggestedRemedy

in figure 148-6, in both TRANSMIT and FLUSH states substitute "SIGNAL_STATUS <=
SIGNAL_ERROR if COL = TRUE
NO_SIGNAL_ERROR else" with "if COL = TRUE SIGNAL_STATUS <= SIGNAL_ERROR
else SIGNAL_STATUS <= NO_SIGNAL_ERROR"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
in figure 148-6, in both TRANSMIT and FLUSH states substitute "SIGNAL_STATUS <=
SIGNAL_ERROR if COL = TRUE
NO_SIGNAL_ERROR else" with "if COL = TRUE SIGNAL_STATUS <= SIGNAL_ERROR
else SIGNAL_STATUS <= NO_SIGNAL_ERROR"

Cl **00** *SC* *P* **3** *L* **1** # 57
Graber, Steffen Pepperl+Fuchs GmbH

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

. specifies additions to and appropriate modifications to add 10 Mb/s . (remove 'to' after 'additions')

SuggestedRemedy

. specifies additions and appropriate modifications to add 10 Mb/s .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "specifies additions to and" with "specifies additions and"

Cl **00** *SC* *P* **3** *L* **4** # 58
Graber, Steffen Pepperl+Fuchs GmbH

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

copper (in Keywords section most of the words start with a capital letter, should be uniform)

SuggestedRemedy

Copper

Proposed Response *Response Status* **W**

PROPOSED REJECT. Chief Editor confirmed with Pete Anslow that previous practice has not been to capitalize all of the entries in the keywords (see "copper" in the 802.3bw Keyword list, for example).

Cl **00** *SC* *P* **3** *L* **4** # 1
Graber, Steffen Pepperl+Fuchs GmbH

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

MediumDependent Interface

SuggestedRemedy

Medium Dependent Interface

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "MediumDependent" with Medium Dependent"

Cl **00** *SC* *P* **3** *L* **5** # 2
Graber, Steffen Pepperl+Fuchs GmbH

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

physical layer (in Keywords section most of the words start with a capital letter, should be uniform)

SuggestedRemedy

Physical Layer

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "physical layer" with "Physical Layer" as per the IEEE 802.3 Working Group editorial guidelines.

Cl **00** *SC* **0** *P* **11** *L* **26** # 60
Maguire, Valerie The Siemon Company

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

It's recommended to flag the new frontmatter text with an editor's note so that this material will be sure to be reviewed when the document goes out for Working Group review.

SuggestedRemedy

Insert Editors note with the text, "Editor's Note: New front matter text needs review."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Insert Editors note with the text, "Editor's Note: New front matter text needs review."

Cl **00** *SC* **0** *P* **11** *L* **36** # 64
Maguire, Valerie The Siemon Company

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

Overview of amendment is incorrect. Update with new text provided by David Law.

SuggestedRemedy

Replace, "This amendment increases the maxi-mum PD power available by utilizing all four pairs in the specified structured wiring plant." with "This amendment adds power delivery using all four pairs in the structured wiring plant, resulting in greater power being available to end devices. This amendment also allows for lower standby power consumption in end devices and adds a mechanism to better manage the available power budget."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace, "This amendment increases the maxi-mum PD power available by utilizing all four pairs in the specified structured wiring plant." with "This amendment adds power delivery using all four pairs in the structured wiring plant, resulting in greater power being available to end devices. This amendment also allows for lower standby power consumption in end devices and adds a mechanism to better manage the available power budget."

Cl **00** *SC* **0** *P* **11** *L* **41** # 65

Maguire, Valerie — The Siemon Company

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

Overview of amendment is incorrect. Update with new text provided by David Law.

SuggestedRemedy

Replace, "This amendment includes changes to IEEE Std 802.3-201x and its amendments, and adds Clause 136 through Clause 140, Annex 135A, Annex 135B, Annex 135C, Annex 135D, Annex 135E, Annex 135F, Annex 135G, Annex 136A, Annex 136B, Annex 136C, and Annex 136D. This amendment adds new Media Access Control (MAC) parameters, Physical Layer specifications, and management parameters for the transfer of IEEE 802.3 format frames at 50 Gb/s, 100 Gb/s, and 200 Gb/s." with "This amendment includes changes to IEEE Std 802.3-201x and its amendments, and adds Clause 131 through Clause 140 and Annex 135A through Annex 136D. This amendment adds MAC parameters, Physical Layers, and management parameters for the transfer of IEEE 802.3 format frames at 50 Gb/s, 100 Gb/s, and 200 Gb/s."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace, "This amendment includes changes to IEEE Std 802.3-201x and its amendments, and adds Clause 136 through Clause 140, Annex 135A, Annex 135B, Annex 135C, Annex 135D, Annex 135E, Annex 135F, Annex 135G, Annex 136A, Annex 136B, Annex 136C, and Annex 136D. This amendment adds new Media Access Control (MAC) parameters, Physical Layer specifications, and management parameters for the transfer of IEEE 802.3 format frames at 50 Gb/s, 100 Gb/s, and 200 Gb/s." with "This amendment includes changes to IEEE Std 802.3-201x and its amendments, and adds Clause 131 through Clause 140 and Annex 135A through Annex 136D. This amendment adds MAC parameters, Physical Layers, and management parameters for the transfer of IEEE 802.3 format frames at 50 Gb/s, 100 Gb/s, and 200 Gb/s."

Cl **00** *SC* **0** *P* **11** *L* **48** # 59

Maguire, Valerie — The Siemon Company

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

There are two companion documents. Pete Anslow has provided proposed text.

SuggestedRemedy

Replace, "A companion document IEEE Std 802.3.2 defines YANG modules for legacy shared (CSMA/CD) and dedi-cated links in point-to-point and point-to-multipoint architectures (Ethernet Passive Optical Networks, EPON), as well as Power over Ethernet (PoE) ports." with "Two companion documents exist, IEEE Std 802.3.1 and IEEE Std 802.3.2. IEEE Std 802.3.1 describes Ethernet management information base (MIB) modules for use with the Simple Network Management Protocol (SNMP). IEEE Std 802.3.2 describes YANG data models for Ethernet. IEEE Std 802.3.1 and IEEE Std 802.3.2 are updated to add management capability for enhancements to IEEE Std 802.3 after approval of those enhancements."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace, "A companion document IEEE Std 802.3.2 defines YANG modules for legacy shared (CSMA/CD) and dedi-cated links in point-to-point and point-to-multipoint architectures (Ethernet Passive Optical Networks, EPON), as well as Power over Ethernet (PoE) ports." with "Two companion documents exist, IEEE Std 802.3.1 and IEEE Std 802.3.2. IEEE Std 802.3.1 describes Ethernet management information base (MIB) modules for use with the Simple Network Management Protocol (SNMP). IEEE Std 802.3.2 describes YANG data models for Ethernet. IEEE Std 802.3.1 and IEEE Std 802.3.2 are updated to add management capability for enhancements to IEEE Std 802.3 after approval of those enhancements."

Cl **01** *SC* **1.5** *P* **24** *L* **32** # 3

Graber, Steffen — Pepperl+Fuchs GmbH

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

PLCS

SuggestedRemedy

PLCA

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "PLCS" on line 32 with "PLCA" (Same resolution proposed for comments #139, #3, and #188)

Cl **01** *SC* **1.5** *P* **24** *L* **32** # 188

Baggett, Tim — Microchip

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

Incorrect acronym "PLCS" instead of "PLCA"

SuggestedRemedy

Change "PLCS" to "PLCA"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "PLCS" on line 32 with "PLCA" (Same resolution proposed for comments #139, #3, and #188)

Cl **01** *SC* **1.5** *P* **24** *L* **32** # 139

Pandey, Sujan — NXP

Comment Type **ER** *Comment Status* **D** *EZ*

PLCS

SuggestedRemedy

PLCA

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "PLCS" on line 32 with "PLCA" (Same resolution proposed for comments #139, #3, and #188)

Cl **45** *SC* **45.2.1.174a.1** *P* **33** *L* **4** # 189

Baggett, Tim — Microchip

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

"This operation may interrupt data communication." line is not consistent with other reset bit descriptions which include "NOTE -".

SuggestedRemedy

Change to "NOTE - This operation may interrupt data communication."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "This operation may interrupt data communication." with "NOTE - This operation may interrupt data communication." and apply Paragraph tag Note

Cl **45** *SC* **45.2.1.174c** *P* **36** *L* **13** # 4

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *EZ*

0 1 1 = Reserved (in 146.5.2 a third test mode for the PSD mask test has been added, which is sending Idles in Master mode, therefore it makes sense to be able to enable this also through the test mode register)

SuggestedRemedy

0 1 1 = Test mode 3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "0 1 1 = Reserved" with "0 1 1 = Test mode 3"

Cl **45** *SC* **45.2.1.174d.1** *P* **37** *L* **7** # 190

Baggett, Tim — Microchip

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

"This operation may interrupt data communication." line is not consistent with other reset bit descriptions which include "NOTE -".

SuggestedRemedy

Change to "NOTE - This operation may interrupt data communication."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "This operation may interrupt data communication." with "NOTE - This operation may interrupt data communication." and apply Paragraph tag Note

Cl **45** *SC* **45.2.1.174d.3** *P* **37** *L* **22** # 191

Baggett, Tim — Microchip

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

Incorrect reference to 10BASE-T1L PMA control register/bit 1.2294.11 rather than 10BASE-T1S PMA control.

SuggestedRemedy

Change "1.2294.11" to "1.2299.11"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Change "1.2294.11" to "1.2299.11"

Cl **45** *SC* **45.2.1.174d.3** *P* **37** *L* **27** # 192
Baggett, Tim Microchip

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

Incorrect reference to 10BASE-T1L PMA control register/bit 1.2294.11 rather than 10BASE-T1S PMA control.

SuggestedRemedy

Change "1.2294.11" to "1.2299.11"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Change "1.2294.11" to "1.2299.11"

Cl **45** *SC* **45.2.1.174h.1** *P* **41** *L* **23** # 193
Baggett, Tim Microchip

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

Incorrect reference section 147.5.2 should be 147.4.1

SuggestedRemedy

Change "147.5.2" to "147.4.1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Change "147.5.2" to "147.4.1"

Cl **104** *SC* **104.9.4.3** *P* **76** *L* **44** # 5
Graber, Steffen Pepperl+Fuchs GmbH

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

With transfer function H2(f) specified in Equation (104-3) where f2=0.1 MHz ±1%

SuggestedRemedy

Change in H2(f) the 2 in subscript. Change f2=0.1 MHz ±1% to f2 = 0.1 MHz ± 1 % (with the 2 in f2 in subscript).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Change the 2 in "H2f" to subscript, change the 2 in "f2" to subscript, and insert non-breaking space after "±".

Cl **104** *SC* **104.9.4.4** *P* **77** *L* **11** # 6
Graber, Steffen Pepperl+Fuchs GmbH

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

146.8.xxx (reference needs to be specified)

SuggestedRemedy

146.8.4

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Replace "146.8.xxx" with "146.8.4".

Cl **146** *SC* **146.1** *P* **79** *L* **19** # 7
Graber, Steffen Pepperl+Fuchs GmbH

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

10BASE-T1LPHY (add space before PHY)

SuggestedRemedy

10BASE-T1L PHY

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.1** *P* **79** *L* **19** # 94
Xu, Dayin Rockwell Automation

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

Missed a space between 10BASE-T1L and PHY

SuggestedRemedy

Add a space between 10BASE-T1L and PHY

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. (duplicate of comment 11)

Cl **146** *SC* **146.1.2** *P* **81** *L* **3** # 8
Graber, Steffen Pepperl+Fuchs GmbH

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

. link utilization.. (remove second dot)

SuggestedRemedy

. link utilization.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.1.2** *P* **81** *L* **11** # 9
Graber, Steffen Pepperl+Fuchs GmbH

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

The MDI is specified in 146.8.. (remove second dot)

SuggestedRemedy

The MDI is specified in 146.8.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.1.2** *P* **81** *L* **17** # 10
Graber, Steffen Pepperl+Fuchs GmbH

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

. in the Task Force review process.. (remove second dot)

SuggestedRemedy

. in the Task Force review process.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.1.2** *P* **81** *L* **22** # 11
Graber, Steffen Pepperl+Fuchs GmbH

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

There is a wrong paragrah separation between line 22 and line 24.

SuggestedRemedy

Remove the "new paragraph" formatting between line 22 and line 24.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.1.2.1** *P* **81** *L* **24** # 95
Xu, Dayin Rockwell Automation

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

wrong format

SuggestedRemedy

remove spaces between "signa" and "ls on ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Accomplished by resolution of comment 11

Cl **146** *SC* **146.2** *P* **82** *L* **26** # 13
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *EZ*

The TX_CLK arrow has the wrong direction (signal direction should go from PCS to MII)

SuggestedRemedy

Change arrow direction for TX_CLK signal.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.2** *P* **82** *L* **27** # 14
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *EZ*

TXD<7:0> (MII is only 4 bits wide)

SuggestedRemedy

TXD<3:0>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.2** *P* **82** *L* **27** # 97
Xu, Dayin Rockwell Automation

Comment Type **T** *Comment Status* **D** *EZ*

RXD<7:0> should be RXD<3:0>

SuggestedRemedy

Change RXD<7:0> to RXD<3:0>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.2** *P* **82** *L* **28** # 96
Xu, Dayin Rockwell Automation

Comment Type **T** *Comment Status* **D** *EZ*

TXD<7:0> should be TXD<3:0>

SuggestedRemedy

Change TXD<7:0> to TXD<3:0>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.2** *P* **82** *L* **36** # 15
Graber, Steffen Pepperl+Fuchs GmbH

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

MDI+, MDI- signals are named BI_DA+ and BI_DA- in the rest of the document

SuggestedRemedy

Change MDI+, MDI- to BI_DA+, BI_DA-

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.2** *P* **82** *L* **37** # 16
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *EZ*

RXD<7:0> (MII is only 4 bits wide)

SuggestedRemedy

RXD<3:0>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.2.1** *P* **83** *L* **17** # 17
Graber, Steffen Pepperl+Fuchs GmbH

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

Chapter headlines 146.2.1 to 146.2.2.3

SuggestedRemedy

Please remove these chapter headlines.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.3.4.1** *P* **95** *L* **28** # 20
Graber, Steffen Pepperl+Fuchs GmbH

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

RSTCD * (valid_dispreset =FALSE) (add space before FALSE)

SuggestedRemedy

RSTCD * (valid_dispreset = FALSE)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.3.4.1** *P* **96** *L* **36** # 21
Graber, Steffen Pepperl+Fuchs GmbH

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

RSTCD *(Rxn = ESD_ERR4) (missing space before opening bracket)

SuggestedRemedy

RSTCD * (Rxn = ESD_ERR4)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.4.4.1** *P* **104** *L* **16** # 22
Graber, Steffen Pepperl+Fuchs GmbH

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

Misalignment of 'detected.'

SuggestedRemedy

Please align the word 'detected.' below 'Reliable operation .'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.4.4.2** *P* **104** *L* **40** # 23
Graber, Steffen Pepperl+Fuchs GmbH

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

Missing new line before 'maxwait_timer'

SuggestedRemedy

Add new line before 'maxwait_timer' to have the same style as for other sections.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.4.4.2** *P* **104** *L* **43** # 24
Graber, Steffen Pepperl+Fuchs GmbH

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

Missing new line before 'minwait_timer'

SuggestedRemedy

Add new line before 'minwait_timer' to have the same style as for other sections.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.4.4.3** *P* **105** *L* **1** # 25
Graber, Steffen Pepperl+Fuchs GmbH

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

State diagram. (remove dot)

SuggestedRemedy

State diagram

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.1** *P* **106** *L* **46** # 26
Graber, Steffen Pepperl+Fuchs GmbH

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

EMC tests. (remove dot)

SuggestedRemedy

EMC tests

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.1** *P* **108** *L* **35** # 27
Graber, Steffen Pepperl+Fuchs GmbH

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

. peak-to-peak in using normal driving levels . (remove 'in')

SuggestedRemedy

. peak-to-peak using normal driving levels .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.1** *P* **108** *L* **42** # 28
Graber, Steffen Pepperl+Fuchs GmbH

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

Default setting is to use Auto-Negotiation (missing dot at the end of the sentence)

SuggestedRemedy

Default setting is to use Auto-Negotiation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **8** # 32
Graber, Steffen Pepperl+Fuchs GmbH

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

. operating mode and and 1.2 ± 1.0 dBm . (remove second 'and')

SuggestedRemedy

. operating mode and 1.2 ± 1.0 dBm ...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **9** # 34
Graber, Steffen Pepperl+Fuchs GmbH

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

. using the test fixture 2 shown in Figure 146-18 . (it seems to make sense to remove the '2' as the text fixture is already described by the reference to Figure 146-18 or alternatively also name the Figure 146-18 accordingly)

SuggestedRemedy

. using the test fixture shown in Figure 146-18 .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **13** # 35
Graber, Steffen Pepperl+Fuchs GmbH

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

. are considered in PSD measurement. (add 'the' before 'PSD measurement')

SuggestedRemedy

. are considered in the PSD measurement.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **40** # 36
Graber, Steffen Pepperl+Fuchs GmbH

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

square brackets in Equation (146-7)

SuggestedRemedy

Please remove the square brackets in Equation (146-7)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **51** # 37
Graber, Steffen Pepperl+Fuchs GmbH

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

square brackets in Equation (146-9)

SuggestedRemedy

Please remove the square brackets in Equation (146-9)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.4** *P* **110** *L* **1** # 38
Graber, Steffen Pepperl+Fuchs GmbH

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

. is the frequency in MHz (add dot at the end of the sentence)

SuggestedRemedy

. is the frequency in MHz.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.4.4** *P* **110** *L* **11** # 39
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *EZ*

Lower PSD mask for 2.4 Vpp and 1.0 Vpp shows a wrong corner frequency of 4 MHz instead of 2.5 MHz (therefore also the PSD values at 5 MHz are too high)

SuggestedRemedy

Please change drawing to fit Equations (146-7) and (146-9).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.5.3** *P* **111** *L* **33** # 40
Graber, Steffen Pepperl+Fuchs GmbH

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

. within the PHY into account.. (remove second dot)

SuggestedRemedy

. within the PHY into account.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.5.6** *P* **111** *L* **46** # 41
Graber, Steffen Pepperl+Fuchs GmbH

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

When measured with 100 O ± 0.1 % termination, transmit differential signal at MDI shall be . (add 'the' before 'transmit' and 'the' before 'MDI')

SuggestedRemedy

When measured with 100 O ± 0.1 % termination, the transmit differential signal at the MDI shall be .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.6.2** *P* **113** *L* **9** # 42
Graber, Steffen Pepperl+Fuchs GmbH

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

. can be selected by setting bits 1.2100.14 (BASE-T1L PMA/PMD Control Register) . (change 'bits' to 'bit' and BASE-T1L to BASE-T1, as this is the universal register for the BASE-T1 PHYs)

SuggestedRemedy

. can be selected by setting bit 1.2100.14 (BASE-T1 PMA/PMD Control Register) .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.7.1.1** *P* **114** *L* **20** # 68

Horrmeyer, Bernd — Phoenix Contact

Comment Type **ER** *Comment Status* **D** *EZ*

Graph starts at approximately 5 dB. Smallest value when calculating insertion loss by Equation (146-14) is 10.3 dB

SuggestedRemedy

Change the smallest value of the graph to 10.3 dB

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolved with comment#156

Cl **146** *SC* **146.7.1.2** *P* **114** *L* **38** # 156

DiMinico, Christopher — MC Communications

Comment Type **T** *Comment Status* **D** *EZ*

Comment # 238 D1.0 to correct Figure 146-22 was not implemented by editor.

SuggestedRemedy

New figure needs to be generated using Equation (146-10) values.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.8.3** *P* **119** *L* **8** # 46

Graber, Steffen — Pepperl+Fuchs GmbH

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

Return loss (add (f) after Return loss, to align this Equation with other Equations with frequency dependency within this standard draft)

SuggestedRemedy

Return loss(f)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.1** *P* **121** *L* **39** # 47

Graber, Steffen — Pepperl+Fuchs GmbH

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

. current implementation on evaluation board takes about 20 bit times maximum). This is a reference to an example implementation, please remove this text.

SuggestedRemedy

Remove text "current implementation on evaluation board takes about 20 bit times maximum)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove the text "current implementation on evaluation board takes about 20 bit times maximum)"
AND
Remove the editor's note on lines 31 to 36 with similar content.

Cl **146** *SC* **146.11.4.1.1** *P* **124** *L* **28** # 48

Graber, Steffen — Pepperl+Fuchs GmbH

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

Convert Sdn[3:0] to ternary pair (replace pair by triplet (4B3T coding instead of 3B2T coding is being used for 10BASE-T1L))

SuggestedRemedy

Convert Sdn[3:0] to ternary triplet

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.11.4.2.1** *P* **126** *L* # 51

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *EZ*

Contribute to the receive fault bit specified in 45.2.1.7.5 (PHY specific register is missing)

SuggestedRemedy

Contribute to the receive fault bit specified in 45.2.1.7.5 and 45.2.1.174b.7

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.11.4.1.3** *P* **126** *L* **6** # 49

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *EZ*

The PCS shall be placed in loopback mode when the loopback bit in MDIO register 3.0.14, defined in 45.2.3.1.2 is set to a one. (There is an additional bit, 3.2278.14, which is defined in the PHY specific register set, with the same loopback functionality.)

SuggestedRemedy

The PCS shall be placed in loopback mode when the loopback bit in MDIO register 3.0.14, defined in 45.2.3.1.2, or the loopback bit in MDIO register 3.2278.14, defined in 45.2.3.58a.2, is set to a one.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.11.4.2.1** *P* **126** *L* **37** # 50

Graber, Steffen — Pepperl+Fuchs GmbH

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

146.4.2 (font size does not fit)

SuggestedRemedy

Align font size with rest of the text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.11.4.2.2** *P* **128** *L* **5** # 52

Graber, Steffen — Pepperl+Fuchs GmbH

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

. by setting bits 1.2294.12 as . (change 'bits' to 'bit')

SuggestedRemedy

. by setting bit 1.2294.12 as .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.11.4.2.2** *P* **128** *L* **26** # 53

Graber, Steffen — Pepperl+Fuchs GmbH

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

. for the 1 Vpp transmit amplitude . (everywhere else in the standards draft 1.0 Vpp is being used)

SuggestedRemedy

. for the 1.0 Vpp transmit amplitude .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.11.4.6** *P* **130** *L* **26** # 54

Graber, Steffen — Pepperl+Fuchs GmbH

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

Less than 6.2 µs (64 bit times) (should be 6.4 µs instead of 6.2 µs)

SuggestedRemedy

Less than 6.4 µs (64 bit times)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **147** *SC* **147.2.1** *P* **133** *L* **1** # 126

Beruto, Piergiorgio — Canova Tech

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

Figure 147-2 porting from draft 1.0 is incomplete

SuggestedRemedy

add label "transmitting" on arrow between PCS TRANSMIT block to PCS RECEIVE block

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add label "transmitting" to arrow between "PCS TRANSMIT" and "PCS RECEIVE" blocks

Cl **147** *SC* **147.2.1** *P* **133** *L* **1** # 110

Beruto, Piergiorgio — Canova Tech

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

In figure 147-2 the MII signals should be named as in clause 22

SuggestedRemedy

replace "TXCLK" with "TX_CLK", replace "RXCLK" with "RX_CLK", replace "RXDV" with "RX_DV", replace "RXER" with "RX_ER"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
- Replace "TXCLK" with "TX_CLK"
- Replace "RXCLK" with "RX_CLK"
- Replace "RXDV" with "RX_DV"
- Replace "RXER" with "RX_ER"

Cl **147** *SC* **147.2.1** *P* **133** *L* **1** # 109

Beruto, Piergiorgio — Canova Tech

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

Comment #267 on draft 1.0 was approved but not fully implemented in draft 1.1

SuggestedRemedy

In figure 147-2 change "plca_en signal" arrow (from MANAGEMENT to PCS TRANSMIT block) to "plca_en"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Already dealt with by #83

Cl **147** *SC* **147.2.1** *P* **133** *L* **4** # 128

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **D** *EZ*

Collision detection shall be disabled when operating in full-duplex mode

SuggestedRemedy

In figure 147-2 add an arrow named "duplex_mode" from MANAGEMENT to COLLISION DETECTION and PCS RECEIVE blocks

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add an arrow named "duplex_mode" from "MANAGEMENT" to " COLLISION DETECTION" and to "PCS RECEIVE"
Note: this is a new arrow (not present in D1.0)

Cl **147** *SC* **147.2** *P* **133** *L* **6** # 83

Xu, Dayin — Rockwell Automation

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

change "plca_en signal" to "plca_en"

SuggestedRemedy

change "plca_en signal" to "plca_en"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "plca_en signal" to "plca_en"

Cl **147** *SC* **147.2.2.2** *P* **135** *L* **5** # 55

Graber, Steffen — Pepperl+Fuchs GmbH

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

. if such error is detected, a ESDERR symbol is sent ..

SuggestedRemedy

. if this error is detected, then an ESDERR symbol is sent ..

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "detected, a ESDERR" to "detected, an ESDERR"

Cl **147** *SC* **147.2.2.3** *P* **138** *L* **11** # 112

Beruto, Piergiorgio — Canova Tech

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

In figure 147-4 in DATA state, pcs_txen is a typo. It should be pcs_txer.

SuggestedRemedy

In figure 147-4 replace "err <= err + pcs_txen" with "err <= err + pcs_txer"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "err <= err + pcs_txen" to "err <= err + pcs_txer"

Cl **147** *SC* **147.2.3** *P* **140** *L* **19** # 91
Xu, Dayin Rockwell Automation

Comment Type **T** *Comment Status* **D** *EZ*

rx_data<2:0> is wrong, should be rx_data<3:0>

SuggestedRemedy

Change rx_data<2:0> to rx_data<3:0>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "rx_data<2:0>" to "rx_data<3:0>"

Cl **147** *SC* **147.2.3** *P* **140** *L* **27** # 92
Xu, Dayin Rockwell Automation

Comment Type **T** *Comment Status* **D** *EZ*

rx_data<2:0> is wrong, should be rx_data<3:0>

SuggestedRemedy

Change rx_data<2:0> to rx_data<3:0>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "rx_data<2:0>" to "rx_data<3:0>"

Cl **147** *SC* **147.3.2** *P* **145** *L* **3** # 127
Beruto, Piergiorgio Canova Tech

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

"PDM" should be "PMD" (2 times)

SuggestedRemedy

Substitute "When in multidrop mode, the PDM shall be put into high-impedance/Z state" with "When in multidrop mode, the PMD shall be put into high-impedance/Z state"

Substitute "While in point-to-point mode, the PDM shall drive" with "While in point-to-point mode, the PMD shall drive"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Already dealt with by #181

Cl **147** *SC* **147.3.2** *P* **145** *L* **3** # 181
iyer, venkat microchip

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

typo

SuggestedRemedy

PDM shouldbe PMD

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
- Change "the PDM shall be" to "the PMD shall be"
- Change "the PDM shall drive" to "the PMD shall drive"

Cl **147** *SC* **147.3.2** *P* **145** *L* **4** # 182
iyer, venkat microchip

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

typo

SuggestedRemedy

PDM shouldbe PMD

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Already dealt with by #181

Cl **147** *SC* **147.3.3** *P* **145** *L* **39** # 140
Pandey, Sujan NXP

Comment Type **TR** *Comment Status* **D** *EZ*

The symbol sequence J/J/J/K which replaces the first 16 bit of packet preamble

SuggestedRemedy

The symbol sequence J/J/J/K which replaces the first 20 bit of packet preamble

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "J/J/J/K which replaces the first 16 bit of" to "J/J/J/K which replaces the first 20 bits of"

Cl **147** *SC* **147.4.1.3.2** *P* **147** *L* **29** # 66
Maguire, Valerie The Siemon Company

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

Typo

SuggestedRemedy

Replace, "UppePSD" with "UpperPSD" in equation (147-1).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "UppePSD(f)" to "UpperPSD(f)" in the equation

Cl **147** *SC* **147.6.3** *P* **150** *L* **29** # 67
Maguire, Valerie The Siemon Company

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

Capitalization error

SuggestedRemedy

Replace, "ModeconversionLoss" with "ModeConversionLoss" in equation (147-5).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **148** *SC* **148.4.1** *P* **155** *L* **39** # 163
Zimmerman, George CME Consulting et al

Comment Type **T** *Comment Status* **D** *EZ*

"this subclause" - you mean Clause 148, not just 148.4.1, no?

SuggestedRemedy

Replace "this subclause" with "Clause 148".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Replace "this subclause" with "Clause 148".

Cl **148** *SC* **148.4.2** *P* **157** *L* **8** # 117
Beruto, Piergiorgio Canova Tech

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

In figure 148-2 the MII signals should be named as in clause 22

SuggestedRemedy

replace "TXCLK" with "TX_CLK", replace "TXEN" with "TX_EN", replace "TXER" with "TX_ER"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
In figure 148-2 replace "TXCLK" with "TX_CLK", replace "TXEN" with "TX_EN", replace "TXER" with "TX_ER"

Cl **148** *SC* **148.4.3.1.2** *P* **158** *L* **11** # 164
Zimmerman, George CME Consulting et al

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

"The values ONE and ZERO are conveyed to the PLCA variable plca_txd<3>,..." the values are conveyed BY the PLCA variables, not to the variables...

SuggestedRemedy

change "to the PLCA variable " to "by the PLCA variables"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
change "to the PLCA variable " to "by the PLCA variables"

Cl **148** *SC* **148.4.4.1.1** *P* **159** *L* **35** # 93
Xu, Dayin Rockwell Automation

Comment Type **T** *Comment Status* **D** *EZ*

This sub-clause is only about the BEACON request, not about the BEACON indication.

SuggestedRemedy

Change the title from "BEACON request and indication" to "BEACON request"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change the title from "BEACON request and indication" to "BEACON request"

Cl **148** *SC* **148.4.4.1.2** *P* **159** *L* **50** # 102
Xu, Dayin Rockwell Automation

Comment Type **T** *Comment Status* **D** *EZ*

This sub-clause is only about the COMMIT request, not about the COMMIT indication.

SuggestedRemedy

Change the title from COMMIT request and indication" to COMMIT request"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change the title from COMMIT request and indication" to COMMIT request"

Cl **148** *SC* **148.4.5.2** *P* **165** *L* **37** # 134
Beruto, Piergiorgio Canova Tech

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

Missing carriage return before "Values:"

SuggestedRemedy

Add carriage return at line 37 before "Value:"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add carriage return at line 37 before "Value:"

Cl **148** *SC* **148.4.6.1** *P* **169** *L* **1** # 124
Beruto, Piergiorgio Canova Tech

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

In figure 148-6 TXEN should be TX_EN

SuggestedRemedy

In figure 148-6 substitute "TXEN" with "TX_EN"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
In figure 148-6 substitute "TXEN" with "TX_EN"

Cl **146** *SC* **146.7.1.2** *P* **114** *L* **49** # 71
Schicketanz, Dieter Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

Editors note:

SuggestedRemedy

If agreed match values below 1 MHz to: 15 dB down to 0.6 MHz; 9+10f from .1 to .6 MHz

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See presentation diminico_01_0318.pdf for response.

Cl **146** *SC* **146.7.1.2** *P* **114** *L* **49** # 72
Schicketanz, Dieter Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

Editors note:

SuggestedRemedy

If not agreed the comment presented for draft 1.0 should be adaptet to change Rl between 10 to 20 MHz from 19 to 24-5log(f)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See presentation diminico_01_0318.pdf for response.

Cl **146** *SC* **146.7.1.2** *P* **115** *L* **8** # 69
Horrmeyer, Bernd Phoenix Contact

Comment Type **T** *Comment Status* **D** *Link Segment*

Why does specified range starts at 0.1 MHz? When measuring in such a low frequency range, measuring dynamics can become crucial

SuggestedRemedy

If the frequency range is necessary, specify it but do not require a measurement at low frequencies

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The 10BASE-T1L PHY is designed to operate over single balanced twisted-pair cabling that meets the link segment requirements. The link segment specification does not include measurement specifications.

The frequency range is specified to sufficiently characterize link segment performance to support 3 level Pulse Amplitude Modulation (PAM3) transmitted at 7.5 MBd with a Tx PSD specified from fMhz=0 to fMhz=20 MHz.

Cl **146** *SC* **146.7.1.3** *P* **115** *L* **36** # 157

DiMinico, Christopher MC Communications

Comment Type **T** *Comment Status* **D** *Link Segment*

Remove TBD: 146.7.1.3 Maximum link delay (TBD)

SuggestedRemedy

Remove TBD: 146.7.1.3 Maximum link delay (TBD)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.7.1.3** *P* **115** *L* **37** # 44

Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **D** *Link Segment*

Maximum link delay (TBD) (remove (TBD))

SuggestedRemedy

Maximum link delay

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Resolved with comment#157

Cl **146** *SC* **146.7.1.3** *P* **115** *L* **39** # 45

Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *Link Segment*

8834 ns (this value is calculated back from AWG14 cable insertion loss, thus estimating a maximum possible length of 1589 m with 5.6 ns per m; typically AWG14 cable has a higher RL than AWG18 cable, thus the IL is due to reflections at the MDI also higher and the possible reach is lower; suggestion is to calculate with a maximum link segment length of 1500 m with 5.6 ns per m, which leads to 8400 ns of maximum link delay time; when changing the maximum link delay time, also the timer values of Clause 98 have to be adopted accordingly, see therefore also presentation "Clause 98 Timer Values").

SuggestedRemedy

Define 8400 ns and change the low speed mode timer values mentioned in presentation "Clause 98 Timer Values" within the draft on pages 59 to 61 and in the respective PICS on pages 64 and 65.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add sentence under first paragraph.
The delay is derived from the point-to-point 14 AWG link segment length of 1589 m given in Table 200A-1 using Equation 80-1 with NVP of 0.6.

Cl **146** *SC* **146.7.1.4** *P* **115** *L* **42** # 61

Maguire, Valerie The Siemon Company

Comment Type **T** *Comment Status* **D** *Link Segment*

Be clear that the parameter of differential to common mode conversion applies to unshielded cabling only.

SuggestedRemedy

Change the sub-clause header from, "146.7.1.4 Differential to common mode conversion" to "146.7.1.4 Differential to common mode conversion (unshielded only)".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Modify first sentence to be explicit that 146.7.1.4 applies to unshielded link segments.

The differential to common mode conversion requirements apply to the unshielded link segments and depend on the electromagnetic noise environment.

Cl **146** *SC* **146.7.1.4** *P* **115** *L* **43** # 62

Maguire, Valerie The Siemon Company

Comment Type **T** *Comment Status* **D** *Link Segment*

Align the structure of the first sentence in clause 146.7.1.4 with the first sentence of 146.7.1.5.

SuggestedRemedy

Replace, "requirements of unshielded link segments" with "requirements of the unshielded link segment".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolved with comment#61

Cl **146** *SC* **146.7.1.4** *P* **115** *L* **50** # 74

Schicketanz, Dieter Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

editors notes on page 115,116

SuggestedRemedy

Delete editors notes and replace Tables 146-5 and 146-6 with the values presented in Schicketanz_122017_10SPE_01_adhoc.pdf pages 7 and 8

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

For committee review of cited presentation.
http://www.ieee802.org/3/cg/public/adhoc/Schicketanz_122017_10SPE_01_adhoc.pdf

Cl **146** *SC* **146.7.1.5** *P* **116** *L* **13** # 63

Maguire, Valerie — The Siemon Company

Comment Type **T** *Comment Status* **D** *Link Segment*

Be clear that the parameter of coupling attenuation applies to shielded cabling only.

SuggestedRemedy

Change the sub-clause header from, "146.7.1.5 Coupling attenuation" to "146.7.1.5 Coupling attenuation (shielded only)" and change the text on line 14 from "of the link segment" to "of the shielded link segment".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Modify first sentence to be explicit that 146.7.1.5 applies to unshielded link segments.

The coupling attenuation requirements apply to the shielded link segment and depend on the electromagnetic noise environment.

Cl **146** *SC* **146.7.1.6** *P* **116** *L* **42** # 73

Schicketanz, Dieter — Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

Table 146-7 shows some TBD , and comments before relating that values need to be found. If We refer to the MICE Table with the known E1, E2, and E3 the values are given in international Standards.If we want other values we cannot call them Ex anymore.

SuggestedRemedy

Leave the table as in Draft 1.0 and add the rows with static discharge and transient burst. It was mentioned in Geneva that they were missing. Add a note below the Table note:There is a transition below 100 MHz in measurements because it gets unrealistic to measure down to .1 MHz; it would need setups in the 100m range. For coupling attenuation and shielding effectiviness it can be assumed that the limits below 30 MHz will never be lower. For differential to commen mode conversion it is similar because the values are measurend usually at short lenght.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The note on P115, L50 states, the basis for coupling attenuation TBDs for the electromagnetic environment are not adequately specified
(TBD) for the link segment frequency range 0.1 MHz-20 MHz.

In 8023cg_D1p0.pdf the Table 146-8-Electromagnetic classiesfications 10BASE-T1L link segment for Radiated RF - AM are specified from 80 MHz.

Regarding static discharge and transient burst, be explicit in additions to the table and rationale.

Cl **146** *SC* **146.7.2.3** *P* **117** *L* **41** # 75

Schicketanz, Dieter — Reutlingen University

Comment Type **E** *Comment Status* **D** *Link Segment*

There is a change in alien FEXT specification. Till now IEEE802.3 specified PSAACR-F. For the first time now PSAFEXT limit is specified. The advantage is that no power backoff is necesary anymore but puts the burden on the components and installation.

SuggestedRemedy

To avoid misunderstandings this should be mentiond with a note after the introduction at line 45. Note: This is an improved definition not to be confused with PSAACR-F.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add sentence to paragraph P128, L3.

Note that the MDAFEXT is specified as the power sum of the individual alien FEXT disturbers (PSAFEXT) versus the individual alien ACRF disturbers (PSAACR-F).

Cl **147** *SC* **147.6** *P* **150** *L* **1** # 77

Schicketanz, Dieter — Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

There are no link specifications for multidrop, link lenght and number of connections are missing also. 25m with 8 drops is a challenging target.

SuggestedRemedy

As the values till now are the same for both add in the Title multidrop. Add below that the link lenght is 15 m and number of connections is 4 for point-to-point and 25m and no additional connections for multidrop. Introductory words like in T1L page 113 would be useful . (no additional conneccions means that only the drops will disturb)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The 147 link segment subclause needs structure similar 146 as well as the addition of MDI and environmental subclause consistent with structure of 146.

Editor given license to implement.

Cl **147** *SC* **147.6.3** *P* **150** *L* **27** # 155
Zerna, Conrad Fraunhofer

Comment Type **T** *Comment Status* **D** *Link Segment*

Comment Group "TX amplitude, PSD and Emissions"
Replace
"
ModeConversionLoss(f) = { 43 0.3MHz <= f < 20MHz } [dBm/Hz]
43-20*log10(f/20) 20MHz <= f <= 200MHz
"
with

SuggestedRemedy

"
ModeConversionLoss(f) = { 46 0.3MHz <= f < 20MHz } [dBm/Hz]
46-20*log10(f/20) 20MHz <= f <= 200MHz
"

--> also presentation

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

For committee discussion of cited presentation.

Cl **147** *SC* **147.6** *P* **150** *L* **36** # 78
Schicketanz, Dieter Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

The complete clause needs some wording and explanations for mode conversion and limits for Alien Noise.

SuggestedRemedy

Rewrite the complete clause using 802.3bw clause 147.6 as guidance (adding alien noise).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Resolved with comment#77.

Cl **147** *SC* **147.6** *P* **150** *L* **52** # 80
Schicketanz, Dieter Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

Envinronmental specification clause missing

SuggestedRemedy

copy clause 96.9 from 802.3bw

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Resolved with comment#77.

Cl **147** *SC* **147.6** *P* **150** *L* **52** # 79
Schicketanz, Dieter Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

MDI Clause missing

SuggestedRemedy

copy MDI clause 96.8 from 802.3bw

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Resolved with comment#77.

Cl **200** *SC* **200A.1** *P* **179** *L* **1** # 81
Schicketanz, Dieter Reutlingen University

Comment Type **T** *Comment Status* **D** *Link Segment*

Annex 200 contains useful information but they are informative. Only clause 200A.1.1.1.2 could be considered normative . It was discussed like this in Geneva

SuggestedRemedy

Change Normative to informative , and if necesary delete clause 200A.1.1.1.2 and insert in the main body as subclause 146.7.2.4 (link performance)

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The Annex includes requirements for class power (normative) and associated PICS.

200A.1.1.1.2 Point-to-point class power requirements
The minimum continuous power that the PSE shall be capable of supplying (Ppd) for the 1000 m link segment
is given inTable 200A-2 for each class.

Cl **146** *SC* **146.6.3** *P* **113** *L* **22** # 43
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *Management*

Only a few of the relevant registers are given in Table 146-4, other registers are missing.

SuggestedRemedy

Change Table 146-4 according to presentation "MDIO Register Mapping"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See presentation Graber_3cg_02_0318.pdf, slide 2.
Change "Reduced transmit level" to "Transmit voltage amplitude control"
Do not add "10BASE-T1L test mode control register" row
Do not add rows for Transmit fault bit or Receive fault bit status.

Cl **146** *SC* **146.8.1** *P* **118** *L* **28** # 76

Schicketanz, Dieter — Reutlingen University

Comment Type **T** *Comment Status* **D** *MDI*

MDI Connectors. Liaison letters were send out to this subject. Responses should be included in the discussion.

SuggestedRemedy

Responses should be included in the discussion before making decisions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
No change to draft

Cl **146** *SC* **146.8** *P* **118** *L* **34** # 138

Fritsche, Matthias — HARTING Technology

Comment Type **T** *Comment Status* **D** *MDI*

If we just specify a four pin M8/M12 or 7/8" connector, it is possible to use a bigger amount of different M8/M12 coding's from example A, B, D, and other coding's. All oth this codings are defined for special non SPE use cases only. To define a plug and work system for the market it must be defined more precisely.

SuggestedRemedy

For industrial applications also a two or four pin shielded M8/M12 connector according to IEC 61076-3-125 shall be used in conformance to the requirements of the link segment defined in 146.7.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Insert "according to IEC 61076-3-125" to read: "For industrial applications also a four pin M8/M12 according to IEC 61076-3-125 or a four pin 7/8" connector may be used as long as it conforms to the requirements of the link segment defined in 146.7."

Cl **146** *SC* **146.8** *P* **118** *L* **38** # 135

Fritsche, Matthias — HARTING Technology

Comment Type **T** *Comment Status* **D** *MDI*

SPE is a new physical layer and to define a plug and work system a new MDI is needed. RJ45 is reserved and used for the 2-pair and 4-pair Ethernet standards.

SuggestedRemedy

Alternatively for applications with lower environmental requirements a two pin shielded IP20 connector according to IEC 61076-3-125 or a two pin unshielded connector according to IEC 63171-1 shall be used in conformance to the requirements of the link segment defined in 146.7.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "Alternatively for applications with lower environmental requirements a standard RJ45 connector may be
used. In this case pin 3 (BI_DA+) and pin 6 (BI_DA-) of the RJ45 connector shall be used."

to
"Alternatively for applications with lower environmental requirements a TBD connector may be used. In this case pin TBD (BI_DA+) and pin TBD (BI_DA-) of the connector shall be used."

Cl **146** *SC* **146.8.3** *P* **119** *L* **8** # 70

Horrmeyer, Bernd — Phoenix Contact

Comment Type **TR** *Comment Status* **D** *MDI*

Formula 146-16 results in negative value for maximum frequency of 20 MHz

SuggestedRemedy

correct formula

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add to editor's note on line 13:
"Return loss value becomes negative at 20 MHz - proposals needed to modify this"

Cl **146** *SC* **146.8.4** *P* **119** *L* **24** # 98
Xu, Dayin Rockwell Automation

Comment Type **T** *Comment Status* **D** *MDI*

10BASE-T1L is not for automotive application, so the paragraph " For automotive applications . is/are removed" should be removed.

SuggestedRemedy

Remove the paragraph of " For automotive applications . is/are removed".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **147** *SC* **147.2.3.1** *P* **139** *L* **32** # 88
Xu, Dayin Rockwell Automation

Comment Type **E** *Comment Status* **D** *PCS*

SILENCE has already been defined in 147.2.2.1

SuggestedRemedy

Delete "SILENCE" variable definition.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Delete definition of variable of "SILENCE" from 147.2.3.1

Cl **147** *SC* **147.2.3.1** *P* **139** *L* **33** # 130
Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **D** *PCS*

In order to support full-duplex mode, the PCS RX block should be configured accordingly

SuggestedRemedy

Appen the following variable description to the "Variables" subclause:
"duplex_mode
indicates whether the PHY is configured for full-duplex operation (DUPLEX_FULL) or half-duplex operation (DUPLEX_HALF). This variable is set after bit 8 in MDIO register 0 defined in table 22-7"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add the folowing to "147.2.3.1 Variables":
====
"duplex_mode
indicates whether the PHY is configured for full-duplex operation (DUPLEX_FULL) or half-duplex operation (DUPLEX_HALF). This variable is set after bit 8 in MDIO register 0 defined in table 22-7"
====
Note: "table 22-7" is a reference

Cl **22** *SC* **22.2.2.4** *P* *L* # 146
Pandey, Sujan NXP

Comment Type **T** *Comment Status* **D** *PLCA*

in Table 22-1 & 22-2. Why do we need these new codes over this interface if the MAC in an SoC or Bridge is not to be modified per this project? See the Objectives.

SuggestedRemedy

Please clarify with NOTES in the draft.

Proposed Response *Response Status* **W**

PROPOSED REJECT. These new codes do not change either the Ethernet frame format at the MAC client service interface, the frame size of the current IEEE 802.3 standard, or the speed from 10 Mb/s at the interface, per the objectives. They are used as part of the new Reconciliation Sublayer, as defined in Clause 148, and the text in the second paragraph of 22.2.4 provides a description of the purpose and points to clause 148. Clause 22 is the Reconciliation Sublayer (RS), not the MAC, which is a valid target for a PHY project and within the objectives. The purpose of the signals is clear - to communicate the RS PLCA BEACON, and PLCA COMMIT. IEEE 802.3 style, evidenced by the inclusion of LPI by EEE, does not support the addition of a note to the table.

Cl **148** *SC* **148.1** *P* **155** *L* **7** # 184
iyer, venkat microchip

Comment Type **T** *Comment Status* **D** *PLCA*

maximum latency is bad

SuggestedRemedy

replace maximum with reduced

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
This is descriptive text. I propose to just remove maximum.

EDITOR: replace "maximum throughput and maximum latency" with "throughput and latency"

Cl **148** *SC* **148.4.2** *P* **157** *L* **1** # 160

Zimmerman, George — CME Consulting et al

Comment Type **E** *Comment Status* **D** *PLCA*

"(plca_en = OFF in register TBD)" - the important thing is the variable, the implementaton in a register is optional and, if implemented, will be documented elsewhere. This same "in register TBD" occurs in several places (148.4.2, 148.4.3.1, 148.4.3.3, 148.4.3.4, 148.4.5.1)

SuggestedRemedy

delete "in register TBD" in 148.4.2, 148.4.3.1, 148.4.3.3, 148.4.3.4, 148.4.5.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
delete "in register TBD" in 148.4.2, 148.4.3.1, 148.4.3.3, 148.4.3.4, 148.4.5.1.

Cl **148** *SC* **148.4.2** *P* **157** *L* **12** # 142

Pandey, Sujan — NXP

Comment Type **TR** *Comment Status* **D** *PLCA*

What is the size of PLCA delay unit?

SuggestedRemedy

Specify the size

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delay is variable, and it's described in PLCA DATA State Machine. Solved by #144

Cl **148** *SC* **148.4.2** *P* **157** *L* **33** # 141

Pandey, Sujan — NXP

Comment Type **TR** *Comment Status* **D** *PLCA*

Figure 148-2 is misleading. Figure tells that gRS will not be a part of PHY and PLCA state machines are defined outside of the PHY. Is this according to the objective of 802.3cg?

SuggestedRemedy

Figure should be drawn such that PLCA RS layer should be inside the PHY

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The Reconciliation Sublayer (RS) is part of a PHY project, translating the MAC/PLS service interface to signals for the PHY, and the figure is in line with other Reconciliation sublayers in 802.3

Cl **148** *SC* **148.4.5.1** *P* **163** *L* **13** # 125

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **D** *PLCA*

In figure 148-3, the transition from RECOVER state to RECOVER state should be done whenever some activity is sensed on the media ("plca_eri"), not only when a good receiving is ongoing ("plca_crs"). This to avoid collision when BEACON is sent

SuggestedRemedy

In figure 148-3 substitute "plca_crs = TRUE" with "plca_eri = TRUE" in transition from RECOVER state to RECOVER state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
In figure 148-3 substitute "plca_crs = TRUE" with "plca_eri = TRUE" in transition from RECOVER state to RECOVER state

---

Cl **148** *SC* **148.4.5.1** *P* **164** *L* **46** # 120

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *PLCA*

NEXT_TS state should be named NEXT_TO (which stands for NEXT Transmit Opportunity)

SuggestedRemedy

In figure 148-4 replace NEXT_TS with NEXT_TO

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In figure 148-4 change "NEXT_TS" to "NEXT_TX_OPPORTUNITY"

Cl **148** *SC* **148** *P* **164** *L* **47** # 165

Zimmerman, George — CME Consulting et al

Comment Type **T** *Comment Status* **D** *PLCA*

Figure 148-4, arc from NEXT_TS to WAIT_TO has no exit condition

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Solved by #119

EDITOR: add "else" as exit condition

Cl **148** *SC* **148.4.5.2** *P* **165** *L* **37** # 133

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **D** *PLCA*

MAX_ID can be left unconfigured on slave devices, myID shall not depend on it

SuggestedRemedy

Change "Values: integer value from 0 (MASTER) to MAX_ID" to "Value: integer value from 0 (MASTER) to 255".

Proposed Response *Response Status* **W**

Change "Values: integer value from 0 (MASTER) to MAX_ID" to "Value: integer value from 0 (MASTER) to 255".

Cl **148** *SC* **148.4.6.1** *P* **168** *L* **1** # 145

Pandey, Sujan — NXP

Comment Type **T** *Comment Status* **D** *PLCA*

Figure 148-5: The variable a and b should be more descriptive

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

NOTE: malformed comment, no suggested remedy is present. But there's a problem with the figure.

EDITOR: In figure 148-5 add a re-circulating ARC on FLUSH state with condition "MCD * a != b" with '!=" being the "not equal" sign.

At page 170, line 38: replace "a, b" description with the following TWO descriptions (one for 'a' and one for 'b'):
"a current delay counter"
"b flush counter"

Cl **45** *SC* **45.2.1.174e.5** *P* **39** *L* **4** # 177

iyer, venkat — microchip

Comment Type **T** *Comment Status* **D** *PMA*

how is receive polarity defined for multi-drop and DME

SuggestedRemedy

not defined

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Change registers for resevered bits in Table 45-142e from "1.2300.7:3" to "1.2300.7:3", delete the entire row for Received polarity bit 1.2300.7:2 in Table 45-142e, and delete all of clause 45.2.1.174e.5 (Receive polarity (1.2300.2)) from lines 4 through 8. Renumbering following clauses accordingly.

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **7** # 30

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **D** *PMA*

(normal operation) add 'in Idle mode' to be consistent with the description of the test mode on page 107, line 30.

SuggestedRemedy

(normal operation in Idle mode)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
While test mode 3 is supposed to be in idle mode, the specification is meant to reflect normal operation, not just idle mode.

Change "(normal operation)" to "(reflecting normal operation)"

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **8** # 31

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **D** *PMA*

. for the 2.4 Vpp operating mode . (it seems to make sense to add also a reference to the mode using normal driving levels, as this is described in other parts of the standard).

SuggestedRemedy

. for the 2.4 Vpp operating mode using normal driving levels .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment 33:
The additional text is unnecessary and can lead to the conclusion that there is the 1Vpp operating mode, as well as an additional mode using the 1Vpp + some unspecified reduced driving levels.

Cl **146** *SC* **146.5.4.4** *P* **109** *L* **8** # 33

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **E** *Comment Status* **D** *PMA*

. for the 1.0 Vpp operating mode. (it seems to make sense to add also a reference to the mode using reduced driving levels, as this is described in other parts of the standard).

SuggestedRemedy

. for the 1.0 Vpp operating mode using reduced driving levels.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The additional text is unnecessary and can lead to the conclusion that there is the 1Vpp operating mode, as well as an additional mode using the 1Vpp + some unspecified reduced driving levels.

Change 146.5.6 (P111 L47) from: "2.76 Vpp for the normal driving levels and 1.15 Vpp for the reduced driving levels" to "2.76 Vpp for the 2.4 Vpp operating mode and 1.15 Vpp for the 1.0 Vpp operating mode"

Change 146.5.4.1 (P108 L35) from: "The transmitter output voltage shall be 2.4 V ± 5 % peak-to-peak in using normal driving
levels and 1.0 V ± 5 % peak-to-peak using reduced driving levels." to:
"The transmitter output voltage have two modes - one with a 2.4 V ± 5 % peak-to-peak (the 2.4 Vpp operating mode) and one with 1.0 V ± 5 % peak-to-peak (the 1.0 Vpp operating mode)."

Change 146.5.6 (P111 L47) from: "2.76 Vpp for the normal driving levels and 1.15 Vpp for the reduced driving levels" to "2.76 Vpp for the 2.4 Vpp operating mode and 1.15 Vpp for the 1.0 Vpp operating mode"

Cl **147** *SC* **147.4.1** *P* **146** *L* **26** # 147

Zerna, Conrad — Fraunhofer

Comment Type **T** *Comment Status* **D** *PMA*

Replace "generated by PRBS7 with the generating polynomial of x^7+x^6+1." with

SuggestedRemedy

"generated by PRBS7 with the generating polynomial of x^7+x^6+1 encoded using Differential Manchester Encoding (DME) as in 147.3.2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add "encoded using Differential Manchester Encoding (DME) as in 147.3.2" between "polynomial of x^7+x^6+1" and the closing period (".")
Note: "147.3.2" is a reference

Cl **147** *SC* **147.4.1.1** *P* **146** *L* **45** # 183

iyer, venkat — microchip

Comment Type **T** *Comment Status* **D** *PMA*

if auto negotiation is optional, how can it be the default setting?

SuggestedRemedy

delete "default setting is to use Auto Negotiation"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Remove the whole sentence " Default setting is to use Auto Negotiation."

Cl **147** *SC* **147.5.1** *P* **148** *L* **42** # 150

Zerna, Conrad — Fraunhofer

Comment Type **T** *Comment Status* **D** *PMD*

Comment Group "PMD and MDI"
Replace
"100Ohm+-TBD"
with

SuggestedRemedy

"100Ohm+-15%"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove "+/- TBD".
Rationale:
- Requirements already say "nominal characteristic impedance" which indicates that it is not exact
- In Geneva it has been discussed that no tolerances should be specified here

Cl **147** *SC* **147.5.1.1** *P* **148** *L* **46** # 151

Zerna, Conrad Fraunhofer

Comment Type **T** *Comment Status* **D** *PMD*

Comment Group "PMD and MDI"
Replace
"fixed 100 Ohm ±10 % termination"
with

SuggestedRemedy

"nominal 100Ohm termination, which satisfies
RL < { -20dB 0.3MHz <= f <= 2MHz} [dB]
-20dB+10*(f-2)/18 2MHz <= f
when measured with 100Ohm+-1% impedance,"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change "provide fixed 100 Ohm ±10 % termination" to "provide fixed 100 Ohm (nominal) termination"
Note: "Ohm" is to remain capital Greek omega symbol

Cl **147** *SC* **147.5.1.2** *P* **149** *L* **3** # 152

Zerna, Conrad Fraunhofer

Comment Type **T** *Comment Status* **D** *PMD*

Comment Group "Multi-Drop terminations"
Delete
"shall provide fixed 50 Ohm ±10 % termination and"

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Delete " shall provide fixed 50 Ohm ±10 % termination and"

Cl **147** *SC* **147.5.1.2** *P* **149** *L* **12** # 153

Zerna, Conrad Fraunhofer

Comment Type **T** *Comment Status* **D** *PMD*

Comment Group "Multi-Drop terminations"
Replace
"by two 100 Ohm (nominal) resistances at the edges"
with

SuggestedRemedy

"by two 100 Ohm (nominal) impedances satisfying
RL < { -23dB 0.3MHz <= f <= 2MHz} [dB]
-23dB+10*(f-2)/18 2MHz <= f
when measured with 100Ohm+-1% impedance, at the edges "

Proposed Response *Response Status* **W**

PROPOSED REJECT.
It has been agreed, that tolerances are not to be specified here

---

Cl **147** *SC* **147.5.1.2** *P* **149** *L* **16** # 154

Zerna, Conrad Fraunhofer

Comment Type **T** *Comment Status* **D** *PMD*

Comment Group "Multi-Drop terminations"
Fix figure to reflect textual changes of comment group

SuggestedRemedy

see jpg file "draft1p1_correction_fig147-11_multidropTerm.jpg"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Use "147-11.png" sent to Valerie "Tuesday, February 27, 2018 12:36 PM" commonly agreed by commenter and clause writer

---

Cl **147** *SC* **147.5.1.2** *P* **149** *L* **17** # 116

Beruto, Piergiorgio Canova Tech

Comment Type **E** *Comment Status* **D** *PMD*

Figure 147-11 porting from draft 1.0 is incomplete

SuggestedRemedy

Copy figure from draft 1.0. See attached PDF

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
- Add "stub1" to the top-right side of the left stup
- Add "stub2" to the top-right side of the right stup
Note: See/use "Figure 0-7" of "8023_lewis_figs_0p8.pdf"

Cl **147** *SC* **147.4.1.3.1** *P* **147** *L* **28** # 148

Zerna, Conrad Fraunhofer

Comment Type **T** *Comment Status* **D** *PSD*

Comment Group "TX amplitude, PSD and Emissions"
Replace
"

```
                -61        0.3MHz <= f < 15MHz
UppePSD(f) = { -41-1.4*f   15MHz <= f < 25MHz  } [dBm/Hz]
                -75        25MHz <= f
```

"
with

SuggestedRemedy

"

```
                -72        0.3MHz <= f < 15MHz
UppePSD(f) = { -52-1.4*f   15MHz <= f < 25MHz  } [dBm/Hz]
                -86        25MHz <= f
```

"

--> also presentation

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Presenter and editors think we need more presentations and discussions in the group before actually changing this.

Cl **147** *SC* **147.4.1.3.2** *P* **147** *L* **38** # 149

Zerna, Conrad Fraunhofer

Comment Type **T** *Comment Status* **D** *PSD*

Comment Group "TX amplitude, PSD and Emissions"
Replace
"

```
LowerPSD(f) = { -95+2*f    5MHz <= f < 10MHz   } [dBm/Hz]
              -55-2*f    10MHz <= f <= 15MHz
```

"
with

SuggestedRemedy

"

```
LowerPSD(f) = { -105+2*f   5MHz <= f < 10MHz   } [dBm/Hz]
              -65-2*f    10MHz <= f <= 15MHz
```

"

--> also presentation

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Presenter and editors think we need more presentations and discussions in the group before actually changing this.

Cl **146** *SC* **146.9.1** *P* **120** *L* **15** # 136

Fritsche, Matthias HARTING Technology

Comment Type **E** *Comment Status* **D** *Safety*

IEC 60950-1 is only valid up to end of 2019 and is replaced with IEC 62368-1. We should use the new safety standard

SuggestedRemedy

Replace "IEC 60950-1" with " IEC 62368-1 (former IEC 60950-1)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add "or IEC 62368-1" after "IEC 60950-1"

Cl **146** *SC* **146.9.2** *P* **120** *L* **25** # 99

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *Safety*

10BASE-T1L is not for automotive application, so the sentence " in automotive applications, all 10BASE-T1L . , and ISO 15764" should be removed.

SuggestedRemedy

Remove the sentence " in automotive applications, all 10BASE-T1L . , and ISO 15764".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.9.2.1** *P* **120** *L* **38** # 100

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *Safety*

10BASE-T1L is not for automotive application, so the paragraph " In automotive applications, all . e) Chemical loads: ISO 167540-5 and ISO 20653" should be removed.

SuggestedRemedy

Remove the paragraph " In automotive applications, all . e) Chemical loads: ISO 167540-5 and ISO 20653" (line 38 - line 45).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.9.2.2** *P* **121** *L* **18** # 101

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *Safety*

10BASE-T1L is not for automotive application, so the paragraph " In automotive applications, . ISO 7637-2/3" from line 18 to line 25 should be removed.

SuggestedRemedy

Remove the paragraph " In automotive applications, . ISO 7637-2/3" from line 18 to line 25

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **146** *SC* **146.11.4.5** *P* **130** *L* **6** # 137

Fritsche, Matthias — HARTING Technology

Comment Type **E** *Comment Status* **D** *Safety*

IEC 60950-1 is only valid up to end of 2019 and is replaced with IEC 62368-1. We should use the new safety standard

SuggestedRemedy

Replace "IEC 60950-1" with " IEC 62368-1 (former IEC 60950-1)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Align with comment 136.
add "or IEC 62368-1" after "IEC 60950-1"

Cl **146** *SC* **146A** *P* **175** *L* **13** # 56

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *Safety*

As specific references in Annex 146A to other standards are critical to maintain, when the other standards change, they should be avoided and a more generic text should be used.

SuggestedRemedy

Replace text on page 175 by text provided in presentation "Intrinsically Safe Applications".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace text on page 175 Lines 12-34 (the entire body text) with text on slide 2 of presentation Graber_3cg_04_0318.pdf. With the following changes:
Change "Nevertheless the chosen 10BASE-T1L specification eases the realization of intrinsically safe systems." to "Nevertheless the specification of 10BASE-T1L in Clause 146 is intended to be compatible with implementation of intrinsically safe systems."

Change "A PHY with the following options would be beneficial:"
to "The following implementation choices can simplify the process for certifying 10BASE-T1L PHYs in intrinsically safe systems:"

Cl **146** *SC* **146.A.1** *P* **176** *L* **13** # 187

iyer, venkat — microchip

Comment Type **T** *Comment Status* **D** *Safety*

figures in annex show PHY with separate TX and RX pins

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.
These figures are shown as a 'possible implementation' - separate inputs are shown for clarity and maximum flexibility.

Cl **146** *SC* **146.3.4.1** *P* **95** *L* **3** # 18

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *State Diagram*

(pcs_reset = ON) + (receiving = FALSE) * [(loc_rcvr_status = NOT_OK) + (link_status = FAIL) + (rcv_jab_detected = TRUE)]

SuggestedRemedy

Change to (pcs_reset = ON) + [(receiving = FALSE) * [(loc_rcvr_status = NOT_OK) + (link_status = FAIL) + (rcv_jab_detected = TRUE)]]

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The * operator takes precedence and adding extra levels of parentheses does not improve clarity, consistent with resolution of comment 190 on draft 1.0

Cl **146** *SC* **146.3.4.1** *P* **95** *L* **3** # 19

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **D** *State Diagram*

An additional state ("WAIT SCRAMBLER") for descrambler synchronization is required for the state machine to wait until the descrambler is in sync before going into "IDLE" state. Otherwise in case the descrambler is not synchronized, it is possible that the state machine hangs in "BAD DELIMITER" state until jabber is detected and the state machine is resetted. Then the state machine is in "IDLE" state again, but not receiving valid idle data as the descrambler is not synchronized. In this case the state machine jumps from the "IDLE" state into "BAD DELIMITER" state again without syncing the descrambler, thus ending up in an endless loop.

SuggestedRemedy

Add additional state "WAIT SCRAMBLER" as described in presentation "PCS Receive State Diagram" to the PSC receive state diagram.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add additional state as shown on slide 2 of Graber_3cg_01_0318.pdf, aligning input conditions editorially with draft and the resolution of comment 18.

Cl **147** *SC* **147.2.2.1** *P* **133** *L* **52** # 106

Huszák, Gergely — Kone

Comment Type **E** *Comment Status* **D** *State Diagram*

The term "SSD symbol group" is incorrect (SSD is a standalone 5B symbol, not a group of those). Moreover the wording does not harmonize with the rest of the clause

SuggestedRemedy

Change "one SSD symbol group" to "an SSD"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "one SSD symbol group" to "an SSD"
Note: this is editor's own comment, rooted in a discussion directly following D1.0 resolution

Cl **147** *SC* **147.2.2.1** *P* **133** *L* **53** # 179

iyer, venkat — microchip

Comment Type **T** *Comment Status* **D** *State Diagram*

in clause 147 'symbol' seems to be the more common understanding than symbol group (sorry for back tracking change I had suggested)

SuggestedRemedy

replace symbol group with symbol

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Already dealt with by #106

Cl **147** *SC* **147.2.2** *P* **138** *L* **10** # 84

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *State Diagram*

In Figure 147-4 "transmitting <= ENCODE(pcs_txdn)" in the DATA state is wrong.

SuggestedRemedy

change "transmitting <= ENCODE(pcs_txdn)" to "tx_sym <= ENCODE(pcs_txdn)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "transmitting" to "tx_sym"

Cl **147** *SC* **147.2.2** *P* **138** *L* **13** # 85

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *State Diagram*

The condition to keep in DATA state is not clear

SuggestedRemedy

Add "ELSE" on the transtion from DATA to DATA itself.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
- 174-4: Add "ELSE" on the transtion from "DATA" to "DATA"
- 147-6: Add an arrow to the line from "DATA" to "DATA"

Cl **147** *SC* **147.2.2.3** *P* **138** *L* **20** # 111

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *State Diagram*

In figure 147-4 some errors occurred when porting the picture to Frame from draft 1.0

SuggestedRemedy

In figure 147-4 substitute "STD err = TRUE" with "STD * err = TRUE" in all transitions from ESD state; add "STD" in transition from GOOD_ESD to "B". See attached PDF.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
- Change 2 times "STD <NL> err =" to STD * err ="
Note: second part of the comment has already been dealt with by #86

Cl **147** *SC* **147.2.2** *P* **138** *L* **29** # 86

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *State Diagram*

Missed STD on the transition from GOOD_ESD to SILENT

SuggestedRemedy

Add "STD" on the transition from GOOD_ESD to SILENT

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add "STD" on the transition from "GOOD_ESD" to "SILENT"

Cl **147** *SC* **147.2.3.2** *P* **139** *L* **37** # 89

Xu, Dayin — Rockwell Automation

Comment Type **T** *Comment Status* **D** *State Diagram*

sym_rx is not defined, should be RX

SuggestedRemedy

Change "sym_rx" to "RX"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change "sym_rx" to "RX"

Cl **147** *SC* **147.2.3.3** *P* **140** *L* **1** # 113

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *State Diagram*

Multiple errors occurred when porting figure 147-5 to Frame from draft 1.0

SuggestedRemedy

In state WAIT_SYNC add space between pcs_rxd and <= symbol. See attached PDF.
Replace text in state WAIT_SSD with text in draft 1.0. See attached PDF.
Replace text in state PRE1 with text in draft 1.0. See attached PDF.
In transition from BAD_SSD state to WAIT_SYNC state replace the "RXn != SILENCE" with "RXn = SILENCE".
From all state when entering WAIT_SYNC state replace "<=" assignment symbol with "=" comparison symbol.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
- Add space between "pcs_rxd" and the "<=" symbol in state "WAIT_SYNC"
- Replace text in state "WAIT_SSD" with "receiving <= TRUE" <NL> "pcs_rxd <= 0000" (as in D1.0, content/format could also be borrowed from D1.1 state "FALSE_CARRIER")
- Add loopback arrow with "ARROW" to state "WAIT_SSD" (as in D1.0)
- Replace text in state "PRE1" with "pcs_rxdc <= TRUE" <NL> "pcs_rxd <= 0101" (as in D1.0, content/format could also be borrowed from D1.1 state "FALSE_CARRIER")
- In transition from "BAD_SSD" to "WAIT_SYNC", replace the "RXn != SILENCE" with "Rxn = SILENCE"
- Change this:
====
pcs_reset <= TRUE +
transmitting <= TRUE +
link_control <= FALSE
====
to this
====
pcs_reset = TRUE +
transmitting = TRUE +
link_control = FALSE
====

Cl **147** *SC* **147.2.3.1** *P* **140** *L* **2** # 131

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **D** *State Diagram*

In order to support full-duplex mode, the PCS RX block should behave accordingly

SuggestedRemedy

In figure 147-5 replace "transmitting <= TRUE" with "(transmitting = TRUE * duplex_mode = DUPLEX_HALF)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
In figure 147-5 replace "transmitting <= TRUE" (second line from top) with "(transmitting = TRUE * duplex_mode = DUPLEX_HALF)"

Cl **147** *SC* **147.2.3.3** *P* **141** *L* **1** # 114

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *State Diagram*

Multiple errors occurred when porting figure 147-6 to Frame from draft 1.0

SuggestedRemedy

Add text in state DATA copying from draft 1.0. See attached PDF.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add text "pcs_rxd <= DECODE(Rxn-4)" to state "DATA" (as in D1.0)

Cl **147** *SC* **147.3.2** *P* **145** *L* **18** # 115

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **D** *State Diagram*

Figure 147-8 porting from draft 1.0 is incomplete

SuggestedRemedy

Copy figure from draft 1.0. See attached PDF

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add a center-aligned "x x x" to the "DATA" state of DME TX"
Note: See/use "Figure 0-5" of "8023_lewis_figs_0p8.pdf"