Cl **45** *SC* **45.2.1** *P* **35** *L* **26** # 1

Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S training

SuggestedRemedy

Change to Reserved and remove Subclause reference (there is no 10BASE-T1S training mode available)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[T1S_TRAINING] comment group

Same resolution for comments 1 and 2.

Change row for Register address 1.2301 from:

Register address: 1.2301
Register name: 10BASE-T1S training Subclause: 45.2.1.174f

to,
Register address: 1.2301 through 1.2302
Register name: Reserved
Subclause:

Delete row for Register address 1.2302

(VM: Subclause entry is blank)

Cl **45** *SC* **45.2.1** *P* **35** *L* **28** # 2

Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S link partner training

SuggestedRemedy

Change to Reserved and remove Subclause reference (there is no 10BASE-T1S training mode available)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[T1S_TRAINING] comment group
Same resolution for comments 1 and 2.

Change row for Register address 1.2301 from:

Register address: 1.2301
Register name: 10BASE-T1S training Subclause: 45.2.1.174f

to,
Register address: 1.2301 through 1.2302
Register name: Reserved
Subclause:

Delete row for Register address 1.2302

(VM: Subclause entry is blank)

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **17** # 3

Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *EEE*

EEE Ability

SuggestedRemedy

Set bit 1.2300.10 to Reserved, Value always 0, RO (10BASE-T1S has inherent EEE Ability as there is no continuous datastream transmitted).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[T1S_EEE] Comment group

Same resolution for comments 92, 120, 79, and 3

(note - if OAM is also deleted rows from 1.2300.12:10 may be collapsed to a single reserved row under editorial license)

Cl **45** *SC* **45.2.1.174e.3** *P* **42** *L* **51** # 4
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *EEE*

EEE Ability

SuggestedRemedy

Remove Chapter 45.2.1.174e.3 (see previous comment)

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group
Duplicate of comment 80

Cl **45** *SC* **45.2.1.174f** *P* **43** *L* **36** # 5
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S training register

SuggestedRemedy

Remove complete chapter, tables and sub chapters, as there is no training mode available for 10BASE-T1S.

Response *Response Status* **C**

ACCEPT.
[T1S_TRAINING] comment group - Master

Cl **45** *SC* **45.2.1.174g** *P* **44** *L* **22** # 6
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S link partner training register

SuggestedRemedy

Remove complete chapter, tables and sub chapters, as there is no training mode available for 10BASE-T1S.

Response *Response Status* **C**

ACCEPT.
[T1S_TRAINING] comment group - Master
Parallel to comment 5 for link partner training

Cl **45** *SC* **45.2.3** *P* **46** *L* **24** # 7
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S PCS status 2

SuggestedRemedy

Change to Reserved and remove Subclause reference.

Response *Response Status* **C**

ACCEPT.
Resolve with 45 & 10

Cl **45** *SC* **45.2.3.58c** *P* **49** *L* **11** # 8
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *PLCA*

Description for Bit 3.2291.12 (PLCA Reset) is missing.

SuggestedRemedy

Add bit 3.2291.12 to table 45-220c: Name: PLCA reset, Description: 1 = PLCA reset 0 = Normal operation, R/W: R/W, SC

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Duplicate of comment 90

Cl **45** *SC* **45.2.3.58d.7** *P* **51** *L* **23** # 9
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *Registers*

This bit is a latching low version of bit 3.2293.10.

SuggestedRemedy

Remove this reference as PCS status 2 register is being removed from the draft.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Resolve with 57 & 58
Implemented by comment 58 which removes all of 45.2.3.58d.7

Cl **45** *SC* **45.2.3.58e** *P* **51** *L* **26** # 10

Graber, Steffen — Pepperl+Fuchs GmbH

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S PCS status 2 register

SuggestedRemedy

Remove complete chapter, tables and sub chapters.

Response *Response Status* **C**

ACCEPT.
Resolve with 45 & 7

Cl **146** *SC* **146.7.1.4** *P* **138** *L* **40** # 11

Schicketanz, Dieter — Reutlingen University

Comment Type **T** *Comment Status* **A** *Link Segment*

Editors note at line 40 and 48 are not needed any more. The rational is that the electromagnetic table was set in Pittsburg, and as no change to the mice table values were stated no alignment necesary. The values in table 146-5 are the same as ISO and TIA values for E1 and E2. Only the frquency range was extended to 0.1 MHz The measurements presented just confirmed the values.

SuggestedRemedy

delete both editors notes

Response *Response Status* **C**

ACCEPT.

Cl **146** *SC* **146.7.1.4** *P* **139** *L* **2** # 12

Schicketanz, Dieter — Reutlingen University

Comment Type **T** *Comment Status* **A** *Link Segment*

Table 146-5-and table 146-7 does not state max or min like in other link tables.

SuggestedRemedy

Change table 146-5 header: Minimum differential to common mode conversion.and to table 146-7 : Minimum coupling attenuation or leave the table headers and add corresponding ">" to the values in the table

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add ">/=" before all the equations in table 146-5. Add ">/=" before all the values in table 146-7.

Cl **146** *SC* **146.7.1.5** *P* **139** *L* **17** # 13

Schicketanz, Dieter — Reutlingen University

Comment Type **T** *Comment Status* **A** *Link Segment*

The reference -4-14 is for a frequency range of 30 to 2000 MHz. The frequency range we are looking at will be given given by IEC as NP 61156-13. This was discussed in Schicketanz_050918_10SPE_01_adhoc.pdf
and the inclusion of this reference was proposed by G.Zimmerman

SuggestedRemedy

Replace actual reference 62153-4-14 with NP61156 and delete TBD

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace IEC 62153-4-14 (TBD) with NP 61156-13, and insert Editor's note as follows:
"Editor's Note (to be removed prior to publication): IEC NP 61156-13 is still in development and the specification reference will likely change prior to publication. The references will be considered for inclusion in the draft based on Task Force review of relevancy prior to publication."

Cl **146** *SC* **146.7.1** *P* **135** *L* **50** # 14

HESS, DAVE — CORD DATA

Comment Type **T** *Comment Status* **A** *Link Segment*

Add text:

Additionally:
a) Refer to ISO/IEC TR 11801-9906 and ANSI/TIA-568.5 for support of 10BASE-T1L over generic balanced 1-pair cabling channels.
b) ISO/IEC TR 11801-9906 and ANSI/TIA-568.5 cover reference implementation specifications and installation guidance for generic balanced 1-pair cabling channels, which support the transmission parameters specified in this clause.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.
Add: Editor's Note: ISO/IEC JTC1 SC25/WG3 is in the process of developing documents including TR 11801-9906 in support of 10BASE-T1L over generic single balanced pair cabling and TIA TR-42 has initiated a number of projects in TR-42.1, TR-42.7, and TR-42.9 in support of 10BASE-T1L over generic single balanced pair cabling.

Cl **147** *SC* **147.4.2** *P* **168** *L* **38** # 15

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PMA*

resolve TBDs in Table 147-2

SuggestedRemedy

Delete TBD in Min and Max column of row T2 (clock frequency tolerance is already specified in 147.5.4.5).
Change name of column "Typ" to "Nom".
Replace TBD in Min column of T3 row with "38".
Replace TBD in Max column of T3 row with "42".
Delete "40" from column Typ of row T3.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
TODO:
With regards to "Table 147-2":
- add em-dash to T1/"Typ"
- add em-dash to T1/"Max"
- add em-dash to T2/"Min"
- add em-dash to T2/"Max"
- change the TBD of T3/"Min" to "38"
- change the TBD of T3/"Max" to 42"

- Add a new paragraph to right under "Table 147-2" with the following content:
====
The minimum and maximum values for parameter T2 are related to the transmit clock specification in 147.5.4.5.
====
Note: 147.5.4.5 is a link

Cl **147** *SC* **147.4.2** *P* **168** *L* **3** # 16

Beruto, Piergiorgio Canova Tech

Comment Type **E** *Comment Status* **A** *Editorial*

Figure referenced in editor note would be descriptive, and it's not needed.

SuggestedRemedy

Remove Editor's note.
Delete text "TBD illustrates the signal flow of the 10BASE-T1S PMA Transmit Function." from line 7

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.4.3** *P* **169** *L* **9** # 17

Beruto, Piergiorgio Canova Tech

Comment Type **E** *Comment Status* **A** *Editorial*

Figure referenced in editor note would be descriptive, and it's not needed.

SuggestedRemedy

Remove Editor's note.
Delete text "TBD illustrates the signal flow of the 10BASE-T1S PMA Receive function." from line 13

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.5.4.1** *P* **171** *L* **3** # 18

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PMA*

resolve TBD and editor's note

SuggestedRemedy

Remove Editor's Note
replace "TBD* +- TBD%" with "1 +- 20%" at line 8

Response *Response Status* **C**

ACCEPT.

Cl **148** *SC* **148.4.5.2** *P* **192** *L* **50** # 19

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

[MASTER COMMENT: PLCA_LOCAL_NODE_ID] Editor's note has served its purpose

SuggestedRemedy

Remove Editor's note.
At line 44 replace "ID representing the PLCA transmit opportunity assigned to the PHY. Generated by the management interface (or equivalent functionality if MDIO is not implemented)" with "ID representing the PLCA transmit opportunity number assigned to the PHY. This signal maps to aPLCALocalNodeID. When MDIO is present, the local_nodeID is configured to the content of bits 3.2289.7:0. When MDIO is not present, the functionality of bits 3.2289.7:0 can be provided by equivalent means"

Response *Response Status* **C**

ACCEPT.

Cl **148** *SC* **148.4.5.2** *P* **193** *L* **8** # 20

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

[MASTER COMMENT: PLCA_MAX_ID] Editor's note has served its purpose

SuggestedRemedy

Remove Editor's note.
At line 2 replace "Generated by the management interface (register TBD - TO BE ALLOCATED), indicates the
maximum number of PHYs that can join the multidrop network" with "Indicates the maximum number of PHYs that can join the multidrop network, reflecting the value of aPLCAMaxID. When MDIO is present, the MAX_ID is configured to the content of bits 3.2289.15:8. When MDIO is not present, the functionality of bits 3.2289.15:8 can be provided by equivalent means"

Response *Response Status* **C**

ACCEPT.

Cl **148** *SC* **148.4.5.4** *P* **193** *L* **40** # 21

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

[MASTER COMMENT: PLCA_TO_TIMER] Resolve TBD

SuggestedRemedy

Replace "Transmit opportunity timer, configured via management interface (register TBD - TO BE
ALLOCATED)." with "The transmit opportunity timer maps to aPLCATransmitOpportunityTimer. When the MDIO is present, the timer is configured to the content of bits 3.2290.15:0. When MDIO is not present, the functionality of bits 3.2290.15:0 can be provided by equivalent means"

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.3.9.2** *P* **34** *L* **10** # 22

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comment [PLCA_MAX_ID]

SuggestedRemedy

Add subclause:
"30.3.9.2.3 aPLCAMaxID
ATTRIBUTE
APPROPRIATE SYNTAX:
INTEGER
BEHAVIOUR DEFINED AS:
The value of aPLCAMaxID is assigned to define the maximum number of nodes that can be handled on the PLCA network.; "

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.3.9.2** *P* **34** *L* **10** # 23

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comment [PLCA_LOCAL_NODE_ID]

SuggestedRemedy

Add subclause:
"30.3.9.2.4 aPLCALocalNodeID
ATTRIBUTE
APPROPRIATE SYNTAX:
INTEGER
BEHAVIOUR DEFINED AS:
The value of aPLCALocalNodeID is assigned to define the ID of the local node on the PLCA network.; "

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.3.9.2** *P* **34** *L* **10** # 24

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comment [PLCA_TO_TIMER]

SuggestedRemedy

Add subclause:
"30.3.9.2.5 aPLCATransmitOpportunityTimer
ATTRIBUTE
APPROPRIATE SYNTAX:
INTEGER
BEHAVIOUR DEFINED AS:
The value of aPLCATransmitOpportunityTimer is assigned to define the time between PLCA transmit opportunities.; "

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3** *P* **46** *L* **12** # 25

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comments [PLCA_MAX_ID], [PLCA_LOCAL_NODE_ID], [PLCA_TO_TIMER]

SuggestedRemedy

In table 45-168

Change:
"3.2280 through 3.2290 | Reserved"
To:
"3.2280 through 3.2288 | Reserved"

Insert:
"3.2289 | 10BASE-T1S PLCA control | 45.2.3.58c"

Insert:
"3.2290 | 10BASE-T1S PLCA control 2 | 45.2.3.58d"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[PLCA_PARAMETERS] Group

Change table from 45-168 to 45-176

Change:
"3.2280 through 3.2290 | Reserved"
To:
"3.2280 through 3.2288 | Reserved"

Insert:
"3.2289 | 10BASE-T1S PLCA control 1| 45.2.3.58c"

Insert:
"3.2290 | 10BASE-T1S PLCA control 2 | 45.2.3.58d"

Cl **45** *SC* **45.2.3.58c** *P* **48** *L* **44** # 26

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comments [PLCA_MAX_ID], [PLCA_LOCAL_NODE_ID]

SuggestedRemedy

Add
"45.2.3.58c 10BASET1S-PLCA control 1 (Register 3.2289)

The assignment of bits in the 10BASE-T1S PLCA control 1 register is shown in Table XXX."

Add table XXX (with editorial license to use the same style of already defined registers):
Bits(s) | Name | Description | RWa
3.2289.15:8 | MAX_ID | 8 bit field indicating the max number of nodes on the PLCA network | R/W
3.2290.7:0 | local_nodeID | 8 bit field indicating the local ID of the node on the PLCA network | RW

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add
"45.2.3.58c 10BASET1S-PLCA control 1 (Register 3.2289)

The assignment of bits in the 10BASE-T1S PLCA control 1 register is shown in Table XXX."

Add table XXX:
Bits(s) | Name | Description | RWa
3.2289.15:8 | MAX_ID | 8 bit field indicating the max number of nodes on the PLCA network | R/W
3.2289.7:0 | local_nodeID | 8 bit field indicating the local ID of the node on the PLCA network | R/W

Editorial license granted to correct subclause and table numbering and table style.

Cl **45** *SC* **45.2.3.58c.1** *P* **48** *L* **44** # 27

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comment [PLCA_MAX_ID]

SuggestedRemedy

Add subclause:
"45.2.3.58c.1 MAX_ID (3.2289.15:8)
When 10BASE-T1S PCS is in PLCA mode and local_nodeID is set to value 0, bits 3.2289.15:8 define the number of maximum nodes that can be handled on the PLCA network.
The default value of bits 3.2289.15:8 is 8."

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.58c.2** *P* **48** *L* **44** # 28

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comment [PLCA_LOCAL_NODE_ID]

SuggestedRemedy

Add subclause:
"45.2.3.58c.2 local_nodeID (3.2289.7:0)
When 10BASE-T1S PCS is in PLCA mode, bits 3.2289.7:0 define the ID of the node in the network.
The default value of bits 3.2289.7:0 is 255."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add subclause:
"45.2.3.58c.2 local_nodeID (3.2289.7:0)
When 10BASE-T1S PCS is in PLCA mode, bits 3.2289.7:0 define the PLCA transmit opportunity assigned to the PHY. See 148.4.5.2.
The default value of bits 3.2289.7:0 is 255."

Cl **45** *SC* **45.2.3.58c** *P* **48** *L* **44** # 29

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comment [PLCA_TO_TIMER]

SuggestedRemedy

Add
"45.2.3.58d 10BASET1S-PLCA control 2 (Register 3.2290)

The assignment of bits in the 10BASE-T1S PLCA control 2 register is shown in Table YYY."

Add table YYY (with editorial license to use the same style of already defined registers):
Bits(s) | Name | Description | RWa
3.2290.15:0 | TO_TIMER | 16 bit field indicating the the time between PLCA transmit opportunities expressed in bit times | R/W

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.58d.1** *P* **48** *L* **44** # 30

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Addendum to master comment [PLCA_TO_TIMER]

SuggestedRemedy

Add subclause:
"45.2.3.58d.1 TO_TIMER (3.2290.15:0)
When 10BASE-T1S PCS is in PLCA mode, bits 3.2290.15:0 define the time between PLCA transmit opportunities expressed in bit times.
The default value of bits 3.2290.15:0 is 20."

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.4** *P* **167** *L* **33** # 31

Beruto, Piergiorgio Canova Tech

Comment Type **E** *Comment Status* **A** *PMA*

Add figure

SuggestedRemedy

Add figure as in pma_block_dia.png

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement the figure "pma_block_dia.png"
Notes:
- The horizontal line from "PMA TRANSMIT" should not have an intermittent arrow
- Mind comments #39 too

Editorial license granted to title figure using corollary figure in 146.4.

Cl **147** *SC* **147.5** *P* **169** *L* **34** # 32

Beruto, Piergiorgio Canova Tech

Comment Type **E** *Comment Status* **A** *Editorial*

Editor's note served its purpose

SuggestedRemedy

Remove Editor's note

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.3.5** *P* **166** *L* **21** # 33

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Editorial*

Collision detection mechanism is left to the implementer. Above sentence suggests a possible implementation, but there's no need for specifying shalls

SuggestedRemedy

Remove Editor's note

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.5.4.1** *P* **171** *L* **29** # 34

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *PMA*

10BASE-T1S have no configurable TX voltage levels

SuggestedRemedy

Remove text "Fixed transmitter driving levels can be selected by setting bits 1.xxxx.xx:xx (10BASE-T1S PMA/PMD Control
Register) of the PHY Management register set as described in 45.2.1.xxx. If MDIO is not implemented
a similar functionality shall be provided by another interface."

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.5.4.1** *P* **171** *L* **12** # 35

Beruto, Piergiorgio Canova Tech

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

[aestethic] Resistor in Fig. 147-11 appears to be detached.

SuggestedRemedy

Fix figure 147-11 to have the resistor connected to the circuit

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.5.4.1** *P* **171** *L* **34** # 36

Beruto, Piergiorgio Canova Tech

Comment Type **E** *Comment Status* **A** *Editorial*

Editor's note served its purpose

SuggestedRemedy

Remove Editor's note

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.8** *P* **175** *L* **4** # 37

Beruto, Piergiorgio Canova Tech

Comment Type **E** *Comment Status* **A** *Editorial*

Editor's note served its purpose

SuggestedRemedy

Remove Editor's note

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.11** *P* **178** *L* **3** # 38

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Delay*

Resolve Editor's Note

SuggestedRemedy

Replace editor's note with the following text:
"The total PHY latency in the transmit path, measured from TX_EN asserted to the first DME clock transition appearing at the MDI, shall be less than 1.6 us

The total PHY latency in the receive path, measured from the first DME clock transition of a valid packet appearing at the MDI to RX_DV asserted, shall be less than 4 us

Note that these limits don't include any latency added by the optional PLCA RS"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace editor's note with the following text:
"The total PHY latency in the transmit path, measured from TX_EN asserted to the first DME clock transition appearing at the MDI, shall be less than 1.6 us. The total PHY latency in the receive path, measured from the first DME clock transition of a valid packet appearing at the MDI to RX_DV asserted, shall be less than 4 us. Note that these limits do not include any latency added by the optional PLCA RS."

(VM: Change from suggested remedy: Make 3 sentences into one paragraph and add "." to end of each sentence)

Cl **147** *SC* **147.4** *P* **167** *L* **32** # 39

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **A** *PMA*

Add text below proposed figure

SuggestedRemedy

Add text "The reference diagrams do not explicitly show the PMA Reset function."

Response *Response Status* **C**

ACCEPT.

Cl **148** *SC* **148.3** *P* **181** *L* **35** # 40

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **A** *Editorial*

Editor's note served its purpose

SuggestedRemedy

Remove Editor's note

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.5.4.5** *P* **173** *L* **33** # 41

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **A** *PMA*

Resolve Editor's note

SuggestedRemedy

Replace editor's note with the following text:
"147.5.4.6 Alien crosstalk noise rejection
This specification is provided to verify the receiver's tolerance to alien crosstalk noise. The test is performed
with a noise source consisting of a signal generator with Gaussian distribution, bandwidth of 20 MHz and
magnitude of -106 dBm/Hz. The receive DUT is connected to these noise sources through a resistive network,
as shown in Figure 147-XXX, with link segments as defined in 147.7 and 147.8. The noise is added at the MDI of
the DUT. The BER is expected to be less than 10^-10, and to satisfy this specification the frame loss ratio is
less than 10^-7 for 125 octet packets measured at MAC/PLS service interface."

Copy figure 146-20

Add the following text: "The PMA local loopback function is optional. If supported, the PMA shall be placed in local loopback mode
when the PMA local loopback bit in MDIO register 1.0.0, defined in 45.2.1.1, or the PMA loopback bit in
MDIO register 1.2294.13, defined in 45.2.1.174a.3, is set to a one (or PMA loopback mode is enabled by a
similar functionality if MDIO is not implemented).

When the PHY is in the PMA local loopback mode, if the PHY supports full-duplex mode of operation, the PMA Receive function
utilizes the echo signals from the unterminated MDI and decodes these signals to
pass the data back to the MII Receive interface.
If the PHY supports half-duplex mode of operation, the PMA and PCS Receive functions shall pass to the MII RX the data decoded from the signal which is normally received during a transmission for the purpose of detecting collisions.

A MAC client can compare the packets sent through the MII Transmit function to the packets received from
the MII Receive function to validate the 10BASE-T1L PCS and PMA functions."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
(Fix copy/paste error on last line -T1L to -T1S)
Replace editor's note with the following text:
"147.5.4.6 Alien crosstalk noise rejection
This specification is provided to verify the receiver's tolerance to alien crosstalk noise. The

test is performed
with a noise source consisting of a signal generator with Gaussian distribution, bandwidth of 20 MHz and
magnitude of -106 dBm/Hz. The receive DUT is connected to these noise sources through a resistive network,
as shown in Figure 147-XXX, with link segments as defined in 147.7 and 147.8. The noise is added at the MDI of
the DUT. The BER is expected to be less than 10^-10, and to satisfy this specification the frame loss ratio is
less than 10^-7 for 125 octet packets measured at MAC/PLS service interface."

Copy figure 146-20

Add the following text: "The PMA local loopback function is optional. If supported, the PMA shall be placed in local loopback mode
when the PMA local loopback bit in MDIO register 1.0.0, defined in 45.2.1.1, or the PMA loopback bit in
MDIO register 1.2294.13, defined in 45.2.1.174a.3, is set to a one (or PMA loopback mode is enabled by a
similar functionality if MDIO is not implemented).

When the PHY is in the PMA local loopback mode, if the PHY supports full-duplex mode of operation, the PMA Receive function
utilizes the echo signals from the unterminated MDI and decodes these signals to
pass the data back to the MII Receive interface.
If the PHY supports half-duplex mode of operation, the PMA and PCS Receive functions shall pass to the MII RX the data decoded from the signal which is normally received during a transmission for the purpose of detecting collisions.

A MAC client can compare the packets sent through the MII Transmit function to the packets received from
the MII Receive function to validate the 10BASE-T1S PCS and PMA functions."

Cl **146** *SC* **146.5.7** *P* **134** *L* **1** # 42

Beruto, Piergiorgio — Canova Tech

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

Since this is a suggestion, as for other comments in the past we decided that the appropriate form is "can" instead of "may"

SuggestedRemedy

Replace "may" with "can"

Response *Response Status* **C**

ACCEPT.

Cl **148** *SC* **148.4.5.1** *P* **191** *L* **10** # 43

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **A** *PLCA*

Since ERI is optional we need to explicitly go from WAIT_TO state to EARLY_RECEIVE when a BEACON indication is received.

SuggestedRemedy

In figure 148-5 change the condition to switch from WAIT_TO to EARLY_RECEIVE state as follows: "plca_eri = TRUE + rx_cmd = BEACON"

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.3.3** *P* **162** *L* **27** # 44

Beruto, Piergiorgio — Canova Tech

Comment Type **E** *Comment Status* **A** *PCS*

After scrambler has been added, the descriptive text is no more in line with the state diagrams.

SuggestedRemedy

Replace "Following the SSD marker there are four states before the DATA state to accomplish
this task." with
"After the last SSD is received, the PCS Receive function discards the next eight symbols which shall
instead be used to achieve lock of the self-synchronizing scrambler. During the time the PCS Receive function is decoding data for locking the scrambler, the special value 5 is conveyed to the MII via the pcs_rxd variable, thus rebuilding
the original preamble transmitted by the MAC.
Eventually the PCS Receive function switches to the DATA state where 5B symbols are being decoded and
conveyed to the MII interface as appropriate."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace the following 1 paragraph:
====
The finite state machine defined in Figure 147-8 is triggered by the reception of a SYNC symbol 'J' from the PMA Receive function and waits for an SSD symbol 'K' to start regenerating the packet preamble whose start has been replaced with the SYNC, SYNC, SYNC, SSD sequence by the PCS Transmit functions as described in Figure 147-4. Following the SSD marker there are four states before the DATA state to accomplish this task.
====
by the followin 2:
====
The finite state machine defined in Figure 147-8 is triggered by the reception of a SYNC symbol from the PMA Receive function and waits for two SSD symbols to start regenerating the packet preamble whose start has been replaced with the SYNC, SYNC, SSD, SSD sequence by the PCS Transmit functions as described in Figure 147-4. After the second SSD is received, the PCS Receive function discards the next nine symbols which shall instead be used to achieve lock of the self-synchronizing descrambler. During the descrambler locking time, the special value 5 is conveyed to the MII via the pcs_rxd variable in order to rebuild the original preamble transmitted by the MAC.
====
Notes:
- mind the link
- see also page 9 of 11 of JJHH.docx

Cl **45** *SC* **45.2.3.58e** *P* **51** *L* **26** # 45

Beruto, Piergiorgio — Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

None of the functions in PCS status register 2 are defined and appropriate for T1S.

SuggestedRemedy

Remove subclause 45.2.3.58e as a whole.
Remove 10BASE-T1S PCS status 2 entry from table 45-168

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implemented by comments 7 & 10

Cl **147** *SC* **147.3.2.3** *P* **159** *L* **1** # 46

Beruto, Piergiorgio — Canova Tech

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

Table 147-1 might look incomplete

SuggestedRemedy

Rework table 147-1 in order to have
only four columns "Name, 4B, 5B and Special function". Leave elements from '0' to 'F' with an empty "special function" field. Move elements whose name ranges from 'I' to 'N' at the bottom of the table.

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.3.3** *P* **162** *L* **14** # 47

Beruto, Piergiorgio — Canova Tech

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

PCS Receive Overview chapter structure is not in line with the one of the PCS Transmit chapter. Clause numbering looks weird.

SuggestedRemedy

Replace "147.3.3 PCS Receive Oveview" with "147.3.3 PCS Receive

147.3.3.1 PCS Receive overview"

Have subsequent subclauses renumbered accordingly

Response *Response Status* **C**

ACCEPT.

Cl **22** *SC* **22.2.2.11** *P* **28** *L* **34** # 48
Beruto, Piergiorgio Canova Tech

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

Short form RS should be used

SuggestedRemedy

Replace "Reconcialiation Sublayer" with "RS"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace "Reconciliation Sublayer" with "RS"

(VM: Typo in Suggested Remedy)

Cl **22** *SC* **22.2.2.11** *P* **28** *L* **42** # 49
Beruto, Piergiorgio Canova Tech

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

Short form RS should be used

SuggestedRemedy

Replace "Reconcialiation Sublayer" with "RS"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace "Reconciliation Sublayer" with "RS"

(VM: Typo in Suggested Remedy)

Cl **30** *SC* **30.5.1.1.4** *P* **34** *L* **28** # 50
Beruto, Piergiorgio Canova Tech

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

10BASE-T1S has no link_status defined

SuggestedRemedy

Remove "10BASE-T1S,"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Resolve with 52 & 54

Delete, ", 10BASE-T1S,"

(VM: Preceeding comma and space also needs to be deleted)

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **27** # 51
Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S is polarity insensitive

SuggestedRemedy

Replace row 1.2300.2 with "Reserved"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Resolve with 53

Change name for bit 1.2300.7:3 from:

Bit: 1.2300.7:3

to,

Bit: 1.2300.7:2

Delete row for bit 1.2300.2

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **31** # 52

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S has no link_status defined

SuggestedRemedy

Replace row 1.2300.0 with "Reserved"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Resolve with 50 & 54

Change row for bit 1.2300.0 from:

Bit(s): 1.2300.0
Name: Receive link status
Description:1 = PMA/PMD receive link up
0 = PMA/PMD receive link down
R/W: RO/LL

to,
Bit(s): 1.2300.0
Name: Reserved
Description: Value always
R/W: RO

Besides T1S is missing a register for advertising and configuring operation over mixing segment networks

In Table 45-142e, insert row below 1.2300.8:

Bit(s): 1.2300.7
Name: Multidrop ability
Description:1 = PMA/PMD has the ability to operate over a mixing segment network
0 = PMA/PMD does not have the ability to operate over a mixing segment network
R/W: RO

Change row 1.2300.7:3 to 1.2300.6:3

Add new subclause 45.2.1.174e.5 (renumbering other clauses as appropriate) with the following text:
"When read as one, bit 1.2300.7 indicates that the 10BASE-T1S PMA/PMD supports multidrop operation over a mixing segment network. When read as a zero, bit 1.2300.8 indicates that the 10BASE-T1S PMA/PMD does not support multidrop operation over a mixing segment network. If the 10BASE-T1S PMA/PMD supports multidrop operation, then it is controlled using bit 1.2299.10, otherwise bit 1.2299.10 has no effect"

In table 45-142d insert row below 1.2299.11:
Bit(s): 1.2299.10
Name: Multidrop mode
Description:1 = Enable operation over mixing segment network
0 = Disable operation over mixing segment network
R/W: R/W

Change row 1.2299.10:0 to 1.2299.9:0

Add new subclause 45.2.1.174d.5 with the following text:
"The 10BASE-T1S PMA/PMD shall operate in multidrop mode over a mixing segment network when bit 1.2299.10 is set to a one. The default value of bit 1.2299.10 is zero. If multidrop mode is not supported according to bit 1.2300.7, writing to bit 1.2299.10 shall have no effect"

Cl **45** *SC* **45.2.1.174e.6** *P* **43** *L* **16** # 53

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S is polarity insensitive

SuggestedRemedy

Remove subclause 45.2.1.174e.6 as a whole

Response *Response Status* **C**

ACCEPT.
Resolve with 51

Cl **45** *SC* **45.2.1.174e.8** *P* **43** *L* **29** # 54

Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S has no link_status defined

SuggestedRemedy

Remove subclause 45.2.1.174e.8 as a whole

Response *Response Status* **C**

ACCEPT.
Resolve with 50 & 52

Cl **45** *SC* **45.2.1.174f** *P* **43** *L* **36** # 55
Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S has no training

SuggestedRemedy

Remove subclause 45.2.1.174f as a whole

Response *Response Status* **C**

ACCEPT.
[T1S_TRAINING] comment group
Duplicate of comment 5

Cl **45** *SC* **45.2.1.174g** *P* **44** *L* **31** # 56
Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S has no link partner training

SuggestedRemedy

Remove subclause 45.2.1.174g as a whole

Response *Response Status* **C**

ACCEPT.
[T1S_TRAINING] comment group
Duplicate of comment 6

Cl **45** *SC* **45.2.3.58d** *P* **50** *L* **28** # 57
Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S has no concept of PCS receive link

SuggestedRemedy

Replace row "3.2292.2" with "Reserved"

Response *Response Status* **C**

ACCEPT.
Resolve with 58 & 9

Cl **45** *SC* **45.2.3.58d.7** *P* **51** *L* **19** # 58
Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *Registers*

10BASE-T1S has no concept of PCS receive link

SuggestedRemedy

Remove subclause 45.2.3.58d.7 as a whole

Response *Response Status* **C**

ACCEPT.
Resolve with 57 & 9

Cl **147** *SC* **147.1** *P* **153** *L* **19** # 59
Beruto, Piergiorgio Canova Tech

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

Typo - uppercase

SuggestedRemedy

Replace "Idle" with "idle"

Response *Response Status* **C**

ACCEPT.

Cl **147** *SC* **147.1** *P* **153** *L* **22** # 60
Beruto, Piergiorgio Canova Tech

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

Subject is "optional support", not "functions"

SuggestedRemedy

Replace "are" with "is"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change
====
functions are described
====
to
====
is described
====

Cl **147** *SC* **147.3.2.1** *P* **157** *L* **20** # 61
Beruto, Piergiorgio Canova Tech

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

Typo: double dot at end of line

SuggestedRemedy

Remove one dot

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
TODO:
- Change "represents SILENCE.." to "represents SILENCE."
- Change "recovery procedure.." to "recovery procedure." -> Piergiorgio will execute this

Cl **147** *SC* **147.9.2** *P* **176** *L* **29** # 62
Beruto, Piergiorgio Canova Tech

Comment Type **T** *Comment Status* **A** *EZ*

No need to specify "exclusive" in table 147-3 header

SuggestedRemedy

Remove "(exclusive)" from headers

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.3** *P* **58** *L* **54** # 63
Franchuk, Brian Emerson Automation

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

Operating mode voltage is wrong.

SuggestedRemedy

Change "2.4 Vpp" to "1.0 Vpp"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.58f.5** *P* **53** *L* **47** # 64
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Message number bitfield 3.2294.11:8 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 47-52: Delete section 45.2.3.58f.5 Message number (3.2294.11:8)
Note: Section extends to Page 54 Lines 1-3.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f.6** *P* **54** *L* **4** # 65
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Ping received bit 3.2294.3 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 4-12: Delete section 45.2.3.58f.6 Ping received (3.2294.3).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f.7** *P* **54** *L* **13** # 66

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Ping transmit bit 3.2294.2 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 13-21: Delete section 45.2.3.58f.7 Ping transmit (3.2294.2).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f.8** *P* **54** *L* **22** # 67

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Local SNR bitfield 3.2294.1:0 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 22-26: Delete section 45.2.3.58f.8 Local SNR (3.2294.1:0).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58g** *P* **54** *L* **27** # 68

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

10BASE-T1S OAM message registers (3.2295 to 3.2298) description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 27-32: Delete section 45.2.3.58g 10BASE-T1S OAM message register (Registers 3.2295 to 3.2298).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 127

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58g** *P* **54** *L* **33** # 69

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-220g - 10BASE-T1S OAM message register needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 33-49: Delete Table 45-220g - 10BASE-T1S OAM message register bit definitions.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 127

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58h** *P* **54** *L* **50** # 70
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

10BASE-T1S OAM receive register 3.2299 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 50-53: Delete section 45.2.3.58h 10BASE-T1S OAM receive register (Register 3.2299).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 128

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58h** *P* **55** *L* **1** # 71
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-220h - Link partner 10BASE-T1S OAM message register needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 1-23: Delete Table 45-220h - Link partner 10BASE-T1S OAM message register bit definitions.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 128

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58h.1** *P* **55** *L* **22** # 72
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Link Partner Message valid bit 3.2299.15 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 22-29: Delete section 45.2.3.58h.1 Link partner 10BASE-T1S OAM message valid (3.2299.15).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 128

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58h.2** *P* **55** *L* **30** # 73
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Link Partner toggle value bit 3.2299.14 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 30-34: Delete section 45.2.3.58h.2 Link partner toggle value (3.2299.14).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 128

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58h.3** *P* **55** *L* **35** # 74
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Link Partner message number bitfield 3.2299.11:8 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 35-38: Delete section 45.2.3.58h.3 Link partner message number (3.2299.11:8).

Response *Response Status* **C**

ACCEPT.
[OAM] Comment group
Implemented by comment 128

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58h.3** *P* **55** *L* **39** # 75
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Link Partner SNR bitfield 3.2299.1:0 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 39-43: Delete section 45.2.3.58h.4 Link partner SNR (3.2299.1:0).

Response *Response Status* **C**

ACCEPT.
[OAM] Comment group
Implemented by comment 128

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58i** *P* **55** *L* **44** # 76
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

10BASE-T1S OAM link partner message registers (3.2300 to 3.2303) description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 44-50: Delete section 45.2.3.58i Link partner 10BASE-T1S OAM message register (Registers 3.2300 to 3.2303).

Response *Response Status* **C**

ACCEPT. [OAM] Comment group
Implemented by comment 115

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58i** *P* **56** *L* **1** # 77
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-220i-10BASE-T1L OAM receive register needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 1-25: Delete Table 45-220i - 10BASE-T1L OAM receive register bit definitions.

NOTE: The table title incorrectly refers to T1L rather than T1S.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 115

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.5.3.7** *P* **63** *L* **9** # 78

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

The table includes PICS items for T1S OAM which need removal.

SuggestedRemedy

Lines 9-38: Delete rows from table referring to items RM194, RM195, RM196, RM197, RM198, RM199, and RM200.

At the top of the table (page 61, line3) change:
"Insert PICS items RM158 through RM200 into the table as follows:"
to:
"Insert PICS items RM158 through RM193 into the table as follows:"

Response *Response Status* **C**

ACCEPT.
[OAM] Comment group

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **17** # 79

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for an EEE availability register bit since T1S has no special EEE mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 17-18: Table 45-142e, Change bit 1.2300.10 (EEE Availability) to Reserved, Value always 0, RO.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[T1S_EEE] Comment group

Duplicate of comment 3

(note - if OAM is also deleted rows from 1.2300.12:10 may be collapsed to a single reserved row under editorial license)

Cl **45** *SC* **45.2.1.174e.3** *P* **42** *L* **51** # 80

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for an EEE availability register bit since T1S has no special EEE mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 51-53: Delete section 45.2.1.174e.3 EEE ability (1.2300.10) and associated text.
Note: section extends onto page 43 Line 1.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group - Master

Cl **45** *SC* **45.2.1.174f** *P* **43** *L* **52** # 81

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for an EEE availability advertised register bit since T1S has no special EEE mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 52-53: Table 45-142f, Change bit 1.2301.0 (EEE Advertisement) to Reserved, Value always 0, RO.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group

Cl **45** *SC* **45.2.1.174f.3** *P* **44** *L* **16** # 82

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for an EEE Advertisement register bit since T1S has no special EEE mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 16-21: Delete section 45.2.1.174f.3 EEE advertisement (1.2301.0) and associated text.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group

Cl **45** *SC* **45.2.1.174g** *P* **44** *L* **43** # 83

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for an Link Partner EEE advertisement register bit since T1S has no special EEE mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 43-44: Table 45-142g, Change bit 1.2302.0 (Link Partner EEE Advertisement) to Reserved, Value always 0, RO.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group

Cl **45** *SC* **45.2.1.174g.3** *P* **45** *L* **6** # 84

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for a Link Partner EEE Advertisement register bit since T1S has no special EEE mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 6-11: Delete section 45.2.1.174g.3 Link Partner EEE advertisement (1.2302.0) and associated text.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment Group

Cl **45** *SC* **45.2.3.58d** *P* **50** *L* **16** # 85

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting.

There is no need for PCS Tx LPI Received, Rx LPI Received, Tx LPI Indication, and Rx LPI Indication register bits since T1S has no special low-power-idle mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 16-17: Table 45-220d, Change bit 1.2292.11 (Tx LPI Received) to Reserved, Value always 0, RO.
Lines 18-19: Table 45-220d, Change bit 1.2292.10 (Rx LPI Received) to Reserved, Value always 0, RO.
Lines 20-21: Table 45-220d, Change bit 1.2292.9 (Tx LPI Indication) to Reserved, Value always 0, RO.
Lines 22-23: Table 45-220d, Change bit 1.2292.8 (Rx LPI Indication) to Reserved, Value always 0, RO.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment Group

Cl **45** *SC* **45.2.3.58d.2** *P* **50** *L* **39** # 86

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for a PCS Tx LPI Received register bit since T1S has no special low-power-idle mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 39-45: Delete section 45.2.3.58d.2 Tx LPI Received (1.2292.11) and associated text.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment Group

Cl **45** *SC* **45.2.3.58d.3** *P* **50** *L* **46** # 87

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for a PCS Rx LPI Received register bit since T1S has no special low-power-idle mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 46-52: Delete section 45.2.3.58d.3 Rx LPI Received (1.2292.10) and associated text.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group
Duplicate of comment 4, 80

Cl **45** *SC* **45.2.3.58d.4** *P* **51** *L* **1** # 88

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for a PCS Tx LPI Indication register bit since T1S has no special low-power-idle mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 1-6: Delete section 45.2.3.58d.4 Tx LPI Indication (1.2292.9) and associated text.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group

Cl **45** *SC* **45.2.3.58d.5** *P* **51** *L* **7** # 89

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

There is no need for a PCS Rx LPI Indication register bit since T1S has no special low-power-idle mode.

[T1S_LPI_REMOVAL]

SuggestedRemedy

Lines 1-6: Delete section 45.2.3.58d.5 Rx LPI Indication (1.2292.8) and associated text.

Response *Response Status* **C**

ACCEPT.
[T1S_EEE] Comment group

Cl **45** *SC* **45.2.3.58c** *P* **49** *L* **10** # 90

Baggett, Tim Microchip

Comment Type **E** *Comment Status* **A** *PLCA*

Bit PLCA reset (3.2291.12) as described in 45.2.3.58c.4 is not included in Table 45-220c.

SuggestedRemedy

Insert the following bit row into Table 45-220c:
3.2291.12 PLCA reset 1=PLCA reset 0=Normal operation R/W, SC

Update reserved bits:
3.2291.11:0

Response *Response Status* **C**

ACCEPT.
Resolve with comment 8 (duplicate)

Cl **45** *SC* **45.2.1.174e.1** *P* **42** *L* **36** # 91

Baggett, Tim Microchip

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

Section heading incorrectly references OAM, but text describes PMA Loopback ability and references the PMA Loopback Ability bit 1.2300.13 in Table 45-142e above.

SuggestedRemedy

Replace "10BASE-T1S OAM ability" with "10BASE-T1S Loopback ability"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **12** # 92

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-142e-10BASE-T1S PMA status register defines OAM Ability bit 1.2300.11 needs removal.

See Baggett_T1S_OAM_072018.pdf

[MASTER COMMENT: OAM_REMOVAL]

SuggestedRemedy

Lines 12-16: Table 45-142e, Change bit 1.2300.11 to Reserved, Value always 0, RO.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Change Reserved row for 1.2300.12 to encompass 1.2300.11 as well:
Change 1.2300.12 to 1.2300.12:11

Delete row for bit 1.2300.11

(Note - if EEE bit is also removed, editor may collapse reserved row to 1.2300.12:10)

Motion 5:

Motion #5: Accept the proposed resolution “ACCEPT IN PRINCIPLE” to comment 92 – MASTER comment for OAM_REMOVAL

M: James Withey
S: Tim Baggett
Y: 46 N:1 A: 8
MOTION PASSES (Technical (>= 75%))

Cl **45** *SC* **45.2.1.174e.2** *P* **42** *L* **41** # 93

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Ability bit 1.2300.11 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 41-49: Delete section 45.2.1.174e.2 10BASE-T1S OAM ability (1.2300.11).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Duplicate of comment 118
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174f** *P* **43** *L* **49** # 94

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-142f-10BASE-T1S training register defines OAM Advertisement bit 1.2301.1 needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 49-50 : Table 45-142f, Change bit 1.2301.1 to Reserved, Value always 0, RO.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] comment group

Note - if OAM is implemented, this bit will need to be allocated in another place because 10BASE-T1S training register is deleted by another comment.

Cl **45** *SC* **45.2.1.174f.2** *P* **44** *L* **8** # 95

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM advertisement bit 1.2301.1 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 8-14: Delete section 45.2.1.174f.2 10BASE-T1S OAM advertisement (1.2301.1).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Duplicate of comment 122
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174g** *P* **44** *L* **39** # 96

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-142g-10BASE-T1S link partner training register OAM Link Partner Advertisement bit 1.2301.1 needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 39-42: Table 45-142g, Change bit 1.2302.1 to Reserved, Value always 0, RO.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] comment group

Note - if OAM is implemented, this bit will need to be allocated in another place because 10BASE-T1S training register is deleted by another comment.

Cl **45** *SC* **45.2.1.174g.2** *P* **44** *L* **53** # 97

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Link Partner Advertisement bit 1.2301.1 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Line 53: Delete section 45.2.1.174g.2 Link partner 10BASE-T1S OAM advertisement (1.2302.1).
Note: Section extends to Page 45 Lines 1-4.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Duplicate of comment 124
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **78** *SC* **78.1.3.3.1** *P* **65** *L* **22** # 98

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **R** *EEE*

As stated in the T1S Clause 147, DME requires no low-power-idle (LPI) as it is silent when not transmitting. Therefore, T1S is inherently energy efficient.

As such, recommend removing 10BASE-T1S from the EEE table in clause 78, and all Clause 45 registers relating to advertising EEE and LPI.

[MASTER COMMENT: T1S_LPI_REMOVAL]

SuggestedRemedy

Delete row for "10BASE-T1S | 147" from Table 78-1 as there is no separate EEE mode.

Response *Response Status* **C**

REJECT.
[T1S_EEE] Comment group

While the commenter is correct, that there is no explicit LPI mode for 10BASE-T1S, the listing in Table 78-1 is still appropriate as 10BASE-T1S supports EEE. 10BASE-T1S is the same as 10BASE-Te as far as EEE is concerned, and note that 10BASE-Te is listed in 802.3-2015 Table 78-1.

Cl **147** *SC* **147.5.4.3** *P* **172** *L* **25** # 99

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *PMA*

The transmitter output jitter should be more controlled to allow for more margin at the receiver where the signal may be degraded by interference and channel impairment. Recommend reducing the maximum allowable transmitted jitter from the current +-7.5 ns to +-5.0 ns.

SuggestedRemedy

Change:
+-7.5 ns symbol-to-symbol jitter
To:
+-5.0 ns symbol-to-symbol jitter

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change
====
than ±7.5 ns symbol-to symbol jitter
====
to
====
than ±5 ns symbol-to-symbol jitter
====
Note: space before "ns" is non-breaking

Cl **147** *SC* **147.5.4.3** *P* **172** *L* **29** # 100

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **R** *EZ*

Figure 147-13 illustrates the transmitter test fixure which appears to be copied from the subclause 146 for T1L. A T1S multi-drop network requires two 100 Ohm edge termination resistors at each end of the bus. Each transmitter will then "see" an equivalent 50 Ohm bus impedance.

Since the balun presents an end termination of 100 Ohms. For the test fixture to accurately model the equivalent 50 Ohm termination of a T1S bus, a 100 Ohm termination resistor must be added in parallel at the Transmitter.

SuggestedRemedy

Figure 147-13: Add a 100 Ohm +-0.1% resistor in parallel to the pair at the Transmitter Under Test.

See Slide 3 of Baggett_Comments_072018.pdf

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **147** *SC* **147.5.4.1** *P* **171** *L* **12** # 101

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **R** *EZ*

Figure 147-11 illustrates the test fixure which appears to be copied from the subclause 146 for T1L. A T1S multi-drop network requires two 100 Ohm edge termination resistors at each end of the bus. Each transmitter will then "see" an equivalent 50 Ohm bus impedance.

To accurately model the bus in the test fixure, a 50 Ohm equivalent resistor should be used instead of the 100 Ohm resistor.

SuggestedRemedy

Figure 147-11: Change the 100 Ohm +- 0.1% termination resistor to 50 Ohm +- 0.1%.

See Slide 2 of Baggett_Comments_072018.pdf

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **147** *SC* **147.1.2** *P* **153** *L* **49** # 102

Baggett, Tim Microchip

Comment Type **E** *Comment Status* **A** *PMA*

A symbol is the shortest pulse possible in transmission (1.4.393). The Baud rate is the unit of signalling speed (1.4.110), or symbols/second. Differential Manchester encoding requires two pulses to encode each bit. Therefore the Baud rate should be 2x the bit rate.

After the 4B/5B encoding, we have 12.2 Mbit/s. After DME, we have 25 M pulses/sec or 25 MBaud.

SuggestedRemedy

Change 12.5 MBd to 25 MBd.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change
====
The 10BASE-T1S PHY utilizes two level Differential Manchester Encoding (DME) modulation transmitted at a 12.5 MBd.
====
to
====
The 10BASE-T1S PHY utilizes two level Differential Manchester Encoding (DME) modulation.
====

Cl **147** *SC* **147.5.4.5** *P* **173** *L* **31** # 103

Baggett, Tim Microchip

Comment Type **E** *Comment Status* **A** *PMA*

A symbol is the shortest pulse possible in transmission (1.4.393). The Baud rate is the unit of signalling speed (1.4.110), or symbols/second. Differential Manchester encoding requires two pulses to encode each bit. Therefore the Baud rate should be 2x the bit rate.

After the 4B/5B encoding, we have 12.2 Mbit/s. After DME, we have 25 M pulses/sec or 25 MBaud.

SuggestedRemedy

Change 12.5 MBd +-100 ppm to 25 MBd +-100 ppm.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change
====
The symbol transmission rate shall be within the range 12.5 MBd ± 100 ppm.
====
to
====
The transmit clock frequency shall be 25 MHz with a tolerance of ± 100 ppm.
====
Note: mind the non-breaking elements

Cl **147** *SC* **147.5.2** *P* **170** *L* **29** # 104

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **D** *Test Mode*

As briefly discussed on the email list, we recommend utilizing the PCS data scrambler in the generation of the pseudo-random sequence in Test Mode 3. The input to the scrambler constant. This will simplify the design a bit by not multiple LFSR structures.

(See emails titled "Test modes in clause 147.5.1" to the mailing list in early May.)

The 4B/4B mapping is also inserted between the scrambler and DM encoder. This results in a test mode that is very close to the normal transmit function, except that it is not packetized, yielding the same transmit PSD that will be obtained in normal operation.

SuggestedRemedy

Replace:

When test mode 3 is enabled, the PHY shall transmit continually a pseudo-random sequence of +1 and -1 symbols generated by PRBS7 with the generating polynomial of x^7 + x^6 + 1 encoded using Differential Manchester Encoding (DME) as in 147.4.2.

With:

When test mode 3 is enabled, the PHY shall transmit continually a pseudo-random sequence of +1 and -1 symbols generated by a PRBS generated by the scrambler defined in 147.3.2.5, then encoded from 4B to 5B symbols at in 147.3.2.3 before being finally encoded using Differential Manchester Encoding (DME) as in 147.4.2. The input to the scrambler shall be a constant stream of 0's.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

TODOs:
- Change "+1 and -1 symbols" to "positive and negative differential voltage levels"
- Change "PRBS7 with the generating polynomial of" to "the scrambler defined in 147.3.2.5 and"
Note: 147.3.2.5 is a link
- Add the following new sentence to the end of this paragraph: "The input to the scrambler shall be a constant stream of zeroes."

Cl **147** *SC* **147.8** *P* **175** *L* **10** # 105
Baggett, Tim Microchip

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

The section on "Mixing segment characteristics" contains a reference to twisted-pair cabling.

SuggestedRemedy

Replace:
"single balanced twisted-pair cabling"

With:
"single balanced pair cabling"

Response *Response Status* **C**

ACCEPT.

Cl **148** *SC* **148.2** *P* **181** *L* **41** # 106
Baggett, Tim Microchip

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

Missing space

SuggestedRemedy

Insert space between "Figure 148-1" and "connects".

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.5.1.1.2** *P* **34** *L* **21** # 107
Baggett, Tim Microchip

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

Section contains references to "twisted-pair" cable.

SuggestedRemedy

Change (two instances):
"Single twisted-pair copper cable"
to:
"Single balanced-pair copper cable"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change in two instances (one on line 21 and one on line 22) from,

Single twisted-pair copper cable

to:

Single balanced pair copper cable

Cl **45** *SC* **45.2.3** *P* **46** *L* **26** # 108
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-168-PCS registers table contains OAM registers 3.2294 through 3.2303 that need removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 26-29: Delete rows for registers 3.2294 (10BASE-T1S OAM transmit), 2.2295 through 3.2298 (10BASE-T1S OAM message), 3.2299 (10BASE-T1S OAM receive), and 3.2300 through 3.2303 (Link partner 10BASE-T1S OAM message).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Duplicate of comment 125
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f** *P* **52** *L* **38** # 109
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

10BASE-T1S OAM Transmit register 3.2294 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 38-41: Delete section 45.2.3.58f 10BASE-T1S OAM transmit register (Register 3.2294).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f.1** *P* **52** *L* **42** # 110
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM message valid bit 3.2294.15 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 42-48 : Delete section 45.2.3.58f.1 10BASE-T1S OAM message valid (3.2294.15).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f.2** *P* **52** *L* **49** # 111
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Toggle value bit 3.2294.14 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 49-54 : Delete section 45.2.3.58f.2 Toggle value (3.2294.14).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f** *P* **53** *L* **1** # 112
Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

Table 45-220f-10BASE-T1S OAM transmit register needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 1-35: Delete Table 45-220f - 10BASE-T1S OAM transmit register bit definitions.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f.3** *P* **53** *L* **36** # 113

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM message received bit 3.2294.13 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 36-41: Delete section 45.2.3.58f.3 10BASE-T1S OAM message received (3.2294.13).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f.4** *P* **53** *L* **42** # 114

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **A** *OAM*

OAM Received message toggle value bit 3.2294.12 description text needs removal.

[OAM_REMOVAL]

SuggestedRemedy

Lines 42-46: Delete section 45.2.3.58f.4 Received message toggle value (3.2294.12).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Implemented by comment 126

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58i** *P* **55** *L* **44** # 115

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete sub-clause and Table 45-220i.

Response *Response Status* **C**

ACCEPT.
[OAM] Comment group

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.5.3.7** *P* **63** *L* **16** # 116

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete Item RM194 through RM199 and renumber

Response *Response Status* **C**

ACCEPT. [OAM] Comment group
Implemented by comment 78 (comment 78 includes in RM200 to the deleted rows)

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174e.1** *P* **42** *L* **36** # 117
Brandt, David Rockwell Automation

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

Sub-clause misnamed

SuggestedRemedy

Change "OAM" to "Loopback" in sub-clause heading

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implemented by Comment 91:
Resolution to comment 91 was:
Replace "10BASE-T1S OAM ability" with "10BASE-T1S Loopback ability"

Cl **45** *SC* **45.2.1.174e.2** *P* **42** *L* **41** # 118
Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete sub-clause

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] - Master comment
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174e.2** *P* **42** *L* **43** # 119
Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete editors note

Response *Response Status* **C**

ACCEPT.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

Either decision should result in removal of editor's note

Cl **45** *SC* **45.2.1.174e** *P* **42** *L* **14** # 120
Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Change bit 1.2300.11 to: "Reserved", "Value always 0", "RO"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Duplicate of comment 92 - see comment 92
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174f** *P* **43** *L* **49** # 121
Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Change bit 1.2301.1 to: "Reserved", "Value always 0", "RO"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174f.2** *P* **44** *L* **8** # 122

Brandt, David — Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete sub-clause

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174g** *P* **44** *L* **39** # 123

Brandt, David — Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Change bit 1.2302.1 to: "Reserved", "Value always 0", "RO"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.1.174g.2** *P* **44** *L* **52** # 124

Brandt, David — Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete sub-clause

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3** *P* **46** *L* **25** # 125

Brandt, David — Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Consolidate Register addresses 3.2294 through 3.2303 from 4 lines, into a single line as:
Register name = "Reserved", Subclause = "".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58f** *P* **52** *L* **38** # 126

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete sub-clause and all subordinate sub-clauses (45.2.3.58f.1 through 45.2.3.58f.8), including Table 45-220f and Editor's Notes in .6 and .7.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group
Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58g** *P* **54** *L* **27** # 127

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete sub-clause and Table 45-220g.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **45** *SC* **45.2.3.58h** *P* **54** *L* **50** # 128

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **A** *OAM*

OAM adds complexity without sufficient value

SuggestedRemedy

Delete sub-clause and all subordinate sub-clauses (45.2.3.58h.1 through 45.2.3.58h.4), including Table 45-220h.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
[OAM] Comment group

Task Force to Discuss OAM and decide whether to implement OAM functionality or not.

If the decision is against OAM, ACCEPT THIS COMMENT
If not, ACCEPT IN PRINCIPLE, and make whatever register changes are proposed.

Cl **147** *SC* **147.3.2.1** *P* **157** *L* **13** # 129

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[MASTER COMMENT][JJHH] Update PCS transmit to incorporate JJHH Preamble + minor text correction.

SuggestedRemedy

Upon assertion of TX_EN, the PCS Transmit function passes a group of two SYNC symbols to the PMA, followed by two SSD symbols which replaces the first 16 bits of the packet preamble. Following the second SSD, TXD<3:0> is encoded into 5B symbols using the encoding rulles specified in Table 147-1, until TX_EN is deasserted.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]
====
Upon the assertion of TX_EN, the PCS Transmit function passes a group of three SYNC symbols to the PMA, followed by an SSD, which replaces the first 16 bits of the preamble. Following SSD, TXD<3:0> is encoded into 5B symbols using encoding rules specified in Table 147-1, until TX_EN is deasserted.
====
to
====
Upon assertion of TX_EN, the PCS Transmit function passes a group of two SYNC symbols to the PMA, followed by two SSD symbols which replaces the first 16 bits of the packet preamble. Following the second SSD, TXD<3:0> is encoded into 5B symbols using the encoding rules specified in Table 147-1, until TX_EN is deasserted.
====
Note: see page 1 of 11 of JJHH.docx

Cl **147** *SC* **147.3.2.2** *P* **158** *L* **22** # 130
CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] Insert txcnt counter

SuggestedRemedy

txcnt General purpose counter for PCS transmit function.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

TODO:
- Insert the variable "txcnt" right after "link_control", as follows:
====
General purpose counter for PCS transmit function.
====
Note: see page 2 of 11 of JJHH.docx

Cl **147** *SC* **147.3.2.2** *P* **158** *L* **27** # 131
CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] replace SSD with 'H'

SuggestedRemedy

5B symbol defined as 'H' in 4B/5B encoding (see also table 147-1)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

Change:
====
5B symbol defined as 'K' in 4B/5B encoding.
====
to:
====
5B symbol defined as 'H' in 4B/5B encoding.
====
Note: see page 3 of 11 of JJHH.docx

Cl **147** *SC* **147.3.2.2** *P* **158** *L* **32** # 132
CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] Replace ESDERR with 'K'

SuggestedRemedy

5B symbol defined as 'K' in 4B/5B encoding (see also table 147-1)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

Change:
====
5B symbol defined as 'H' in 4B/5B encoding.
====
to:
====
5B symbol defined as 'K' in 4B/5B encoding.
====
Note: see page 4 of 11 of JJHH.docx

Cl **147** *SC* **147.3.2.3** *P* **158** *L* **42** # 133
CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] Repace nibble with 'four bits'

SuggestedRemedy

In the PCS transmit process, this function takes as its argument four bits of input data.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

Change:
====
In the PCS transmit process, this function takes as its arguments one data nibble
====
to:
====
In the PCS transmit process, this function takes as its arguments four bits of input data
====
Note: see page 5 of 11 of JJHH.docx

Cl **147** *SC* **147.3.2.3** *P* **159** *L* **8** # 134

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH]Change Name 'K' to ESDERR See table_147_1.png

SuggestedRemedy

see comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

TODO:
- In "Table 147-1-4B/5B Encoding" change "SSD" to "ESDERR" (under K)
- In "Table 147-1-4B/5B Encoding" change "ESDERR" to "SSD" (under H)
Note: see page 6 of 11 of JJHH.docx

Cl **147** *SC* **147.3.2.3** *P* **159** *L* **12** # 135

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] Change Name 'H' to SSD. See table_147_1.png

SuggestedRemedy

see comment

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

Already dealt with by #134
Note: see page 7 of 11 of JJHH.docx

Cl **147** *SC* **147.3.2.3** *P* **160** *L* **17** # 136

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] Update Figure 147-4 see figure_147_4.png

SuggestedRemedy

Edit Figure 147-4 Remove SYNC3, Replace w/SSD1. Change SSD to SSD2

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

Change Figure 147-4 as per the redline text shown by 8 of 11 of JJHH.docx

Cl **147** *SC* **147.3.3** *P* **162** *L* **24** # 137

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] Update PCS Receive text for JJHH preamble

SuggestedRemedy

The finite state machine defined in Figure 147-8 is triggered by the reception of a SYNC symbol from the PMA Receive function and waits for two SSD symbols to start regenerating the packet preamble whose start has been replaced with the SYNC, SYNC, SSD, SSD sequence by the PCS Transmit functions as described in Figure 147-4.

After the second SSD is received, the PCS Receive function discards the next nine symbols which shall instead be used to achieve lock of the self-synchronizing descrambler.

During the descrambler locking time, the special value 5 is conveyed to the MII via the pcs_rxd variable in order to rebuild the original preamble transmitted by the MAC.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace the following 1 paragraph:
====
The finite state machine defined in Figure 147-8 is triggered by the reception of a SYNC symbol 'J' from the PMA Receive function and waits for an SSD symbol 'K' to start regenerating the packet preamble whose start has been replaced with the SYNC, SYNC, SYNC, SSD sequence by the PCS Transmit functions as described in Figure 147-4. Following the SSD marker there are four states before the DATA state to accomplish this task.
====
by the followin 2:
====
The finite state machine defined in Figure 147-8 is triggered by the reception of a SYNC symbol from the PMA Receive function and waits for two SSD symbols to start regenerating the packet preamble whose start has been replaced with the SYNC, SYNC, SSD, SSD sequence by the PCS Transmit functions as described in Figure 147-4. After the second SSD is received, the PCS Receive function discards the next nine symbols which shall instead be used to achieve lock of the self-synchronizing descrambler. During the descrambler locking time, the special value 5 is conveyed to the MII via the pcs_rxd variable in order to rebuild the original preamble transmitted by the MAC.
====
Notes:
- mind the link
- see also page 9 of 11 of JJHH.docx

Cl **147** *SC* **147.3.4** *P* **164** *L* **2** # 138

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **A** *PCS*

[JJHH] update PCS Receive state diagram figure 147-8 see figure_147_8.png

SuggestedRemedy

Redraw Figure 147-8 following picture

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Group [JJHH]

TODO:
- Change Figure 147-8 as per the redline text shown on page 10 of 11 of JJHH.docx
- Do the following editorial fix: change
====
The variables, functions, and timers used in Figure 147-5 are defined as below.
====
to
====
The variables, functions, and timers used in Figure 147-8 are defined as below.
====
as per page 11 of 11 of JJHH.docx
Note: mind the link

Cl **147** *SC* **147.3.3.1** *P* **163** *L* **12** # 139

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **R** *OAM*

[MASTER COMMENT] [UD] Add variable for ud_rxdata

SuggestedRemedy

ud_rxdata<9:0> 15 bits user-defined data consisting of 10 bits of information and a 5-bit CRC retrieved from packet preamble if bit 0 of the user-defined data field is set to '1'. If user-defined data bit 0 is set to '0' the content of this variable is undefined. This variable is inteded to be available for reading via MDIO or similar interface.

Response *Response Status* **C**

REJECT.
No Consensus for Change

Group [UD]
Requires the group to discuss
TODO:
- Insert a new variable ud_rxdata to under "147.3.3.1 Variables"
- Insert a description as per the content of 1 of 13 of UD.docx
- Adjust 45.2.1.147.e, Table 45-142e, 45.2.1.147.f, Table 45-142f, 45.2.3.58i and Table 45-220h as shown on pages 9-13 of 13 of UD.docx -> Valerie notified about this

Cl **147** *SC* **147.3.2.3** *P* **160** *L* **3** # 140

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **R** *OAM*

[UD] Replace figure 147-4 with figure_147_4_UD_field

SuggestedRemedy

redraw Figure 147-4 with following picture

Response *Response Status* **C**

REJECT.
No Consensus for Change
Group [UD]
Requires the group to discuss
TODO:
- Replace figure 147-4 as per the content of 5 of 13 of UD.docx

Cl **147** *SC* **147.3.3.2** *P* **158** *L* **23** # 141

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **R** *OAM*

[UD] ADD Variable for UD_EN

SuggestedRemedy

Defines whether user-defined data is enabled. If user-defined data is enabled for a packet, this variable shall be set to ON. If user-defined data is not supported for this packet, this variable shall be set to OFF. Values: ON or OFF. This variable can be set on a per-packet basis or hard-wired.

Response *Response Status* **C**

REJECT.
No Consensus for Change

Group [UD]
Requires the group to discuss
TODO:
- Insert a new variable rx_ud_sup to under "147.3.3.1 Variables"
- Insert a description as per the content of 2 of 13 of UD.docx

Cl **147** *SC* **147.3.3.2** *P* **158** *L* **23** # 142

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **R** *OAM*

[UD] ADD Variable for UD_txdata

SuggestedRemedy

15 bits user-defined data to be sent over the packet preamble. This variable is set by MDIO or other equivalent functionality. If user-defined data is not supported or not enabled, the content of this variable is undefined

Response *Response Status* **C**

REJECT.
No Consensus for Change

Group [UD]
Requires the group to discuss
TODO:
- Insert a new variable ud_txdata to under "147.3.3.1 Variables"
- Insert a description as per the content of 3 of 13 of UD.docx

Cl **147** *SC* **147.3.2.1** *P* **157** *L* **16** # 143

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **R** *OAM*

[UD] add text for user-defined data in PCS Transmit Overview

SuggestedRemedy

If optional user-defined data channel is supported (UD_EN = ON), the 15 bit Ouser defined data (ud_txdata) replaces part of
the packet preamble starting at the 34th bit (included) from TX_EN asserted, overriding the TXD<3:0>
content as shown in figure 147-4.

Response *Response Status* **C**

REJECT.
No Consensus for Change

Group [UD]
Requires the group to discuss
TODO:
- Insert 2 new paragraph to the end of "147.3.2.1 PCS Transmit overview" as per the content of 4 of 13 of UD.docx
- Implement and insert a new figure, describing the CRC-5, and anchor it to the next text as per the content of 4 of 13 of UD.docx

Cl **147** *SC* **147.3.4** *P* **164** *L* **2** # 144

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **R** *OAM*

[UD] Replace figure 147-8 with figure_147_8_UD_field

SuggestedRemedy

redraw Figure 147-8 with following picture

Response *Response Status* **C**

REJECT.
No Consensus for Change

Group [UD]
Requires the group to discuss
TODO:
- Replace figure 147-8 as per the content of 6 of 13 of UD.docx

Cl **147** *SC* **147.3.3** *P* **165** *L* **2** # 145

CORDARO, Jay Broadcom, Inc.

Comment Type **TR** *Comment Status* **R** *OAM*

[UD] Replace figure 147-9 with figure_147_9_UD_field

SuggestedRemedy

redraw Figure 147-9 with following picture

Response *Response Status* **C**

REJECT.
No Consensus for Change

Group [UD]
Requires the group to discuss
TODO:
- Replace figure 147-9 as per the content of 7 of 13 of UD.docx

Cl **147** *SC* **147.3.3** *P* **162** *L* **27** # 146

CORDARO, Jay Broadcom, Inc.

Comment Type **T** *Comment Status* **R** *OAM*

[ud] delete sentence and add 3 paragraphs

SuggestedRemedy

delete sentence starting "Following the SSD marker there are four states before the DATA state to accomplish this task"
add
After the last SSD is received, the PCS Receive function discards the next eight symbols which shall
instead be used to achieve lock of the self-synchronizing scrambler. Afterward, PCS Receive function decodes one more symbolcontaining the last bit needed for scrambler locking and the first three least significant bits of the optionaluser-defined field. If user-defined data is supported, the least significant user-defined bit UD_EN will be 1. The remaining bits of the optional user-defined fields are then decoded from the next three 5B symbols. If user-defined data is not supported, UD_EN=0 and the PCS receive function ignores the user-defined data bits.
During the time the PCS Receive function is decoding data for the scrambler locking and whether or not user-defined data field is supported, the special value 5 is conveyed to the MII via the pcs_rxd variable, thus rebuilding the original preamble transmitted by the MAC. Eventually the PCS Receive function switches to the DATA state where 5B symbols are being decoded and
conveyed to the MAC via MII interface as appropriate.

Response *Response Status* **C**

REJECT.
No Consensus for Change

Group [UD]
Requires the group to discuss
TODO:
- Remove "the SSD marker there are four states before the DATA state to accomplish this task."
- Add 3 new paragraphs in its place (newline before), as per the content of 8 of 13 of UD.docx (note: this shows only 2 paragraphs, but assume newline before the red text)

Cl **45** *SC* **45.2.3** *P* **46** *L* **5** # 147

Zimmerman, George CME Consulting/6 Affil

Comment Type **E** *Comment Status* **A** *Late*

Editor's note has served its purpose - being there several drafts already.

SuggestedRemedy

Delete editor's note on lines 5-10 of page 46

Response *Response Status* **C**

ACCEPT.