Cl **188** SC **188.6.1.1** P **81** L **51** # 74

Ran, Adee Cisco

Comment Type **TR** *Comment Status* **R** *Test Modes*

"may be tested" means it is optional.

Similarly in 188.6.1.2.

See reasoning in another comment.

SuggestedRemedy

Rephrase the sentences that include "may" to be recommendations ("should") or normative requirements ("shall").

Response *Response Status* **U**

REJECT.

These provide tests which "are permitted" which is the proper use of may. The test is not required to be performed in this way. Additionally, this language is related to the method of test, without a specific requirement. (such requirement may be a user requirement beyond our standard)

Cl **188** SC **188.6.3** P **83** L **3** # 77

Ran, Adee Cisco

Comment Type **TR** *Comment Status* **R** *PMA Electrical*

"fixtures… can be used"
"can" indicates capability. Many fixtures can be used, but some may not be adequate.

Here it looks like a requirement for specific fixtures (with allowance of "functional equivalent").

SuggestedRemedy

Change "can be" to "shall be" or "is".

Response *Response Status* **U**

REJECT.

Specific test fixtures are not required.

Cl **188** SC **188.6.4.2** P **84** L **10** # 78

Ran, Adee Cisco

Comment Type **TR** *Comment Status* **A** *PMA Electrical*

The waveform seems to asymptotically approach some non-zero levels (it is almost flat before the transition). Shouldn't droop from AC coupling cause it to decay to 0 after long enough time?

SuggestedRemedy

Change the figure such that the signal has nonzero slope right before the transitions.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
Modify figure per comment.
Reopened 3/20/25:

(initial response was REJECT.
Decay does not asymptotically go to a flat level. The purpose of Figure 188-14 is not to provide a precise picture of a waveform, but rather to show the holdoff from the peak value that the droop is measured at.)

Cl **188** SC **188.6.4.3** P **84** L **32** # 80

Ran, Adee Cisco

Comment Type **TR** *Comment Status* **R** *PMA Electrical*

The clock for measuring the jitter should be specified in some way; measuring jitter with respect to the tx_clk itself (without filtering) would not include the jitter of tx_clk, which may be a considerable component. If tx_clk is not available then a clock recovery unit has to be used, and the measured jitter can vary based on its bandwidth.

The suggested clock recovery bandwidth is 1/100 of the signaling rate, assuming that such bandwidth is feasible for receivers. It may be reduced if the CRG finds it too high.

SuggestedRemedy

Specify that the jitter is measured corresponding to a clock generated from either the measured signal or tx_clk, by a clock recovery unit that acts as a 1st-order high-pass jitter filter with a corner frequency of 1.25 MHz.

Response *Response Status* **U**

REJECT.

Commenter provides insufficient information for a remedy.

Cl **188** *SC* **188.6.5.2** *P* **86** *L* **20** # 82

Ran, Adee Cisco

Comment Type **ER** *Comment Status* **A** *PMA Electrical*

"may be considered" - but is not an option (allowed behavior).

SuggestedRemedy

Change to "is considered".

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
Change "may be considered satisfied" to "is satisfied"
(Originally - REJECT.
This same language has been debated in multiple clauses. The "may" is permission to test this way, but not a requirement that the test be performed exactly that way. Saying "is" can be misinterpreted as a requirement on the user.)

Cl **188** *SC* **188.7** *P* **87** *L* **7** # 85

Ran, Adee Cisco

Comment Type **TR** *Comment Status* **R** *Management*

Is it just the MDIO electrical interface that is optional? In many places in this draft the text suggests that the MDIO registers are optional and alternative management methods can be used.
The PICS MDIO item also suggests that the registers are optional.

SuggestedRemedy

Rephrase to clarify that the registers are optional, or if that is not the intent, apply changes across the draft to clarify that a MDIO registers are required.

Response *Response Status* **U**

REJECT.

The registers themselves are not optional. See Clause 45: "The MDIO electrical interface is optional. Where no physical embodiment of the MDIO exists, provision of an equivalent mechanism to access the registers is recommended."

Nowhere does it say that the registers are optional, and they are an essential part of the managment functionality not only of this PHY but most 802.3 PHYs. Most 802.3 clauses have similar text.

Cl **188** *SC* **188.8.1** *P* **88** *L* **33** # 87

Ran, Adee Cisco

Comment Type **ER** *Comment Status* **A** *Mixing Segment*

Equation 188-3 is not easy to mentally visualize. It would help readers if a plot of the insertion loss limit is provided.

Also applies to other equations, RL in 188-4, mode conversion in 188-5, TCI IL in 188-6, and TCI RL in 188-7; figures would help. Equations like these are typically accompanied with figures in other clauses, and this amendment should follow precedence.

Also, the equation is almost too long for the page width; consider changing "Insertion loss" to "IL" (matching Equation 188-4), removing some parentheses, etc. to make it fit better into the page. Similarly in other equations.

SuggestedRemedy

Edit equations and add figures per comment.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE. Reopened 3/20/2025, accepting the insertion of figures.

Change Insertion Loss to IL in equation

Remove extra parentheses around "53log(f)"

ADD FIGURES for IL and RL.

(note - original response had:
(Editor's note: Do not add plots. A reader wishing to visualize the equation generally has better plotting tools available than reading a printed plot on a PDF.))

Cl **188** *SC* **188.9** *P* **90** *L* **30** # 88

Ran, Adee Cisco

Comment Type **TR** *Comment Status* **A** *TCI*

Item 1 says "a two-conductor connection to the DTE" - but from figure 188-18, a TCI needs at least 4 conductors (2 for TC1 and 2 for TC2)?

Item 3 suggests that the TCI is integrated with the PMA - in which case there will indeed be 4 conductors.

Is item 1 intended to represent a DTE which includes a termination, and thus has only one TC?

Note that Figure 188-17 shows only two TCIs, not three as suggested by the last sentence in this subclause.

SuggestedRemedy

Please clarify or correct.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE. Reopened 3/20/2025:
Replace "two-conductor connection to the DTE" with "tapped connection from the trunk to the DTE" (at item 1 in 188.9, P99 L28 in d2p1)

(Editor's note: The text represents possible implementations of the TCI. Each is a possible implementation. The other conductors the commenter mentions (two at TC1 and two at TC2) are interface planes at the mixing segment, not connection to the DTE. In Item 3, if the TCI is integrated with the DTE, it still connects to the DTE (PMA) via two conductors. There is no mention of a DTE which includes a termination - that would be unspecified in this standard. The reference to Figure 188-17 is from an earlier rendition of the figure, and the current figure really isn't intended to show the configurations. Additionally, such figures have been confused to be normative specification of how devices must be built, and remove clarity.)

Delete "Figure 188–17 shows one example of each configuration."

Cl **189** *SC* **189.5.2** *P* **116** *L* **16** # 95

Ran, Adee Cisco

Comment Type **TR** *Comment Status* **R** *MPD*

"MPDs are current sinks. See Figure 189–5"
It is not clear what "current sink" means. By Kirchhoff's current law, a 2-port network (which an MPD is) has the same current entering and exiting it, so cannot be current sink. Figure 189-5 does not clarify this statement.

SuggestedRemedy

Clarify the sentence. Perhaps "power sink" is intended.

Response *Response Status* **U**

REJECT.

No consensus for change.

Current sink is a term of art in power engineering.

Cl **1** *SC* **1.4.63a** *P* **22** *L* **7** # 188

Zimmerman, George — CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,So

Comment Type **TR** *Comment Status* **R** *Naming*

I have found that 10BASE-T1M gets confused in the industry as a totally new phy, with "10BASE-T1S" being short-reach, T1L being long reach, and T1M, instead of being "M" for "multidrop", MEDIUM reach… I suggest a better naming would be the relationship between 10BASE-T and 10BASE-Te, where the only real difference is the PMD/media spec. Therefore, I would suggest a global change to 10BASE-T1Sm or perhaps 10BASE-T1Se. indicating that it is the same PHY with some restriction.

Definition should parallel how 10BASE-Te relates to 10BASE-T and reference the 10BASE-T1S PHY. (SUBTYPE_MASTER_COMMENT)

SuggestedRemedy

Globally change references to 10BASE-T1M to 10BASE-T1Sm.
change references 10BASE-T1M / 10BASE-T1S to 10BASE-T1S / T1Sm
Change definition to read "IEEE 802.3 Physical Layer specification for a version of 10BASE-T1S supporting only the multidrop mode of operation (with an enhanced mixing segment specification) for a 10 Mb/s Ethernet local area network using a single balanced pair of conductors as a shared medium. (See IEEE Std 802.3, Clause 188.)"

Response *Response Status* **U**

REJECT.

No consensus for change.

Straw Poll:
I support (indicate as many as possible):
No change (stay with 10BASE-T1M): 19
Change to 10BASE-T1Se: 10
Change to 10BASE-T1Sm: 7
Change to 10BASE-T1S+: 16
Change to 10BASE-T1Sp: 4

No consensus for change

Cl **30** *SC* **30.3.2** *P* **24** *L* **36** # 192

Zimmerman, George — CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,So

Comment Type **TR** *Comment Status* **R** *Naming*

If the construct for 10BASE-T1M to become 10BASE-T1Sm (a variant of 10BASE-T1S) is accepted, then, following the usage for 10BASE-T vs 10BASE-Te, there is no need for separate PhyType and MauType - you just use 10BASE-T1S. (SUBTYPE)

SuggestedRemedy

Delete 30.3.2 and subclauses. (P24 L36-54)

Response *Response Status* **U**

REJECT.

No consensus for change, see comment #188.

Cl **148** *SC* **148.7.5** *P* **56** *L* **18** # 299

McClellan, Brett — Marvell

Comment Type **TR** *Comment Status* **A** *D-PLCA*

In Figure 148–8 D-PLCA Control State Diagram, in the COORDINATOR state, a coordinator lockup happens when two nodes send the BEACON at the same time. The PLCA is not able to register activity from other nodes while transmitting BEACON.

SuggestedRemedy

I will submit a presentation on proposed changes to the D-PLCA Control State Diagram.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change the duration of the wait_beacon_timer (in 148.4.7.4, P55 L45) to read:

Duration: the duration of this timer is four times a random integer uniformly distributed ranging from 40 and 295 inclusive, in bit times, selected upon entering the DISABLED state. (tolerance remains unchanged)

Delete 30.16.1.1.12 aDPLCAWaitBeaconTimer

Delete row for aDPLCAWaitBeaconTimer in Table 30-11 in 30.2.5

Cl **188** *SC* **188.8.2** *P* **89** *L* **14** # 317

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

Comment Type **TR** *Comment Status* **A** *Mixing Segment*

Channel Return Loss Limit and TCI Return Loss Limit crossing each other at 22.2 MHz and 36.9 MHz. Within this range, the Channel Return Loss Limit is higher than the TCI Return Loss Limit. This can lead to a case, where the TCI specification is met but the channel specification is not met caused by the TCI.

SuggestedRemedy

Change Return Loss Limit in the frequency range from 2.8 MHz <= f <= 40 MHz from: "-42.5-20*log10(f)-(0.024/f)+47.5*sqrt(f)-6.39*f+0.0259*f^2" to: "-45.8-20*log10(f)-(4.3/f)+53*sqrt(f)-8*f+0.046*f^2"

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change Mixing Segment Return Loss to:
19.5 - Max (0, 25*log10(F/12.5) dB for 40 MHz > F > 6.8 MHz
0.65 + Max (0, .65+30*log10(F/1.6)) dB for 0.3 < F < 6.8 MHz

Editorial license to reformat equation per other comments and 802.3 style.