

Proposed Responses

IEEE P802.3bp D3.1 1000BASE-T1 PHY 3rd Sponsor recirculation ballot comments

CI 97 SC 97.1.2.3 P 66 L 21 # r03-17
 Mcclellan, Brett Marvell Semiconducto

Comment Type T Comment Status D

"The quiet-refresh cycle continues until the PCS function detects a condition that is not Assert Low Power Idle on the GMII. This condition signals to the PHY that the LPI transmit mode should end. At the next PHY frame the PCS transmits a wake frame composed of an entire PHY frame containing only Idle. On the next PHY frame normal power mode shall resume."
 The text doesn't match the state machine requirement that the wake frame is sent only during a wake frame window.

SuggestedRemedy

Change the text to follow the state machine.
 Change "At the next PHY frame"
 to "At the next PHY frame aligned to the wake window"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 97 SC 97.3.2.2.15 P 88 L 7 # r03-16
 Mcclellan, Brett Marvell Semiconducto

Comment Type T Comment Status D

"At the next PHY frame the PCS transmits a wake frame composed of an entire PHY frame containing only Idle. The wake frame shall be sent only during alternating PHY frame counts."
 These two sentences appear to contradict each other, and the first sentence is not consistent with the state machine.

SuggestedRemedy

Change the text to follow the state machine.
 Change "At the next PHY frame"
 to "At the next wake frame window"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 97 SC 97.3.6.2.2 P 94 L 26 # r03-15
 Mcclellan, Brett Marvell Semiconducto

Comment Type T Comment Status D

"rx_lpi_active
 This variable is set true upon detection of LP_IDLE. Set false upon wake_detection."
 wake_detection appears to be an undefined variable, but is only meant to indicate detection of the wake frame.

SuggestedRemedy

Change "Set false upon wake_detection."
 to "Set false upon detection of the wake frame."

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

Change "Set false upon wake_detection."
 to "Set false upon detection of >>a<< wake frame."

CI 97 SC 97.3.6.2.2 P 94 L 45 # r03-12
 Mcclellan, Brett Marvell Semiconducto

Comment Type T Comment Status D

"tx_lpi_active
 This variable is set false at the next wake frame if any of the conditions is true:"
 A "wake frame" will be transmitted if tx_lpi_active is set false at the next "wake frame window". To avoid circular logic about "wake frame" We should use the term "wake frame window" in this definition.

SuggestedRemedy

change to
 "tx_lpi_active
 This variable is set false at the next wake frame window if any of the conditions is true:"

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

change to
 "tx_lpi_active
 This variable is set false at the next wake frame window if any of the >>following<<
 conditions is true:"

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Cl 97 SC 97.3.6.2.2 P 95 L 10 # r03-13
 McClellan, Brett Marvell Semiconducto

Comment Type T Comment Status D

"tx_wake_frame_complete
 This variable is set true at the end of the RS WAKE frame, otherwise false."
 "RS WAKE" is not defined.
 tx_wake_frame_complete is set true after encoding a complete wake frame (idle frame
 from the PCS) during the wake sense window.

SuggestedRemedy

change to
 "tx_wake_frame_complete
 This variable is set true at the end of a complete wake frame, otherwise false."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

change to
 "tx_wake_frame_complete
 This variable is set to true at the end of a complete wake frame. This variable is set to false
 otherwise."

Cl 97 SC 97.3.6.4 P 97 L 20 # r03-14
 McClellan, Brett Marvell Semiconducto

Comment Type T Comment Status D

Fig 97-12 PCS Receive state diagram.
 "rx_raw <= DECODE(LPBLOCK_R)"
 typo and LPBLOCK_R does not need to be decoded.

line 26 IPBLOCK_R does not need to be decoded.

SuggestedRemedy

line 20 change "rx_raw <= DECODE(LPBLOCK_R)" to "rx_raw <= LPBLOCK_R" Note the
 typo fix (LPBLOCK_R)
 line 26 change "rx_raw <= DECODE(IBLOCK_R)" to "rx_raw <= IBLOCK_R"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 97 SC 97.3.6.4 P 99 L 1 # r03-3
 Chini, Ahmad Broadcom Corporation

Comment Type TR Comment Status D

*** Comment submitted with the file 89133300003-wang_3bp_01_0416.pdf attached ***

Figure (97-14)- PCS Transmit state diagram is not complete and has some typo.

SuggestedRemedy

Suggested changes for figure (97-14) is shown in red in the attached
 wang_3bp_01_0416.pdf

Also add the following variable definition in sub clause 97.3.6.2.2

tx_sleep_frame_complete
 This variable is set true when PHY is transitioning to the LPI mode and sleep signal
 transmission is completed. The variable is set false when transitioning out of LPI mode.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment except definition of tx_sleep_frame_complete as shown below:

tx_sleep_frame_complete
 This variable is set to true when PHY is transitioning to the LPI mode and the sleep signal
 transmission is completed. This variable is set to false when the PHY is transitioning out of
 the LPI mode.

Cl 97 SC 97.3.6.4 P 99 L 16 # r03-8
 McClellan, Brett Marvell Semiconducto

Comment Type E Comment Status D

Figure 97-14 PCS Transmit state diagram. typo "BLOCK_T" should be "IBLOCK_T"

SuggestedRemedy

change "BLOCK_T" to "IBLOCK_T"

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 97 **SC 97.3.6.4** **P 99** **L 35** # **r03-9**
 Mcclellan, Brett Marvell Semiconducto
Comment Type **T** **Comment Status** **D**
 Figure 97-14 PCS Transmit state diagram. missing condition of TX_AGGREGATE in multiple paths
SuggestedRemedy
 change "!tx_data_mode" to "TX_AGGREGATE * !tx_data_mode" in multiple paths:
 SEND_ENTER_LPI to SEND_IDLEES,
 SEND_LPI to SEND_IDLEES, and SEND_WAKE to SEND_IDLEES
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 97 **SC 97.3.6.4** **P 99** **L 38** # **r03-10**
 Mcclellan, Brett Marvell Semiconducto
Comment Type **T** **Comment Status** **D**
 Figure 97-14 PCS Transmit state diagram. The path from SEND_ENTER_LPI to SEND_LPI requires another condition to ensure that a complete phy frame containing LP_IDLE is encoded before entering SEND_LPI.
SuggestedRemedy
 change "TX_AGGREGATE * tx_data_mode * tx_lpi_active"
 to "TX_AGGREGATE * tx_data_mode * tx_lpi_active * tx_sleep_frame_complete"
 in path from SEND_ENTER_LPI to SEND_LPI

 Page 95 line 10
 add a definition in 97.3.6.2.2 for tx_sleep_frame_complete
 "tx_sleep_frame_complete
 This variable is set true at the end of a complete sleep frame, otherwise false."
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT IN PRINCIPLE.

 Resolved per comment # r03-3

Cl 97 **SC 97.3.6.4** **P 99** **L 38** # **r03-11**
 Mcclellan, Brett Marvell Semiconducto
Comment Type **T** **Comment Status** **D**
 Figure 97-14--PCS Transmit state diagram. There is a typo and missing condition in path from SEND_WAKE to SEND_DATA
SuggestedRemedy
 change "TX_AGGREGATE * tx_wake_rame_complete"
 to "TX_AGGREGATE * tx_data_mode * tx_wake_frame_complete" Note the typo fix (frame)
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 97 **SC 97.4.2.2** **P 117** **L 19** # **r03-19**
 Mcclellan, Brett Marvell Semiconducto
Comment Type **T** **Comment Status** **D**
 "PMA Transmit shall continuously transmit onto the MDI pulses modulated by the symbols given by tx_symb when sync_link_control = false, or the sync_tx_symb output by the PHY Link Synchronization function when sync_link_control = true,"
 This text does not match the definition for sync_link_control in 97.4.2.6.1
SuggestedRemedy
 change text to:
 "PMA Transmit shall continuously transmit onto the MDI pulses modulated by the symbols given by tx_symb when sync_link_control = ENABLE, or the sync_tx_symb output by the PHY Link Synchronization function when sync_link_control = DISABLE"
Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

 Update PICS as well.

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Cl 97 SC 97.6.1.4 P 145 L 1 # r03-4
Moffitt, Bryan CommScope, Inc.

Comment Type E Comment Status D

This calls for LCL and LCTL while 97A.1 says "link segment differential to common mode conversion loss" which are TCL and TCTL.

SuggestedRemedy

For consistency change: For compliance to the specification measurements of LCL and LCTL are sufficient as LCL and TCL are considered reciprocal and LCTL and TCTL are considered reciprocal. To: Note that LCL and TCL are considered reciprocal and LCTL and TCTL are considered reciprocal. For compliance to the specification, measurements of either LCL or TCL and either LCTL or TCTL are sufficient. Or change 97A.1 p 205 L 12 "link segment differential to common mode conversion loss" to "link segment mode conversion loss"

Proposed Response Response Status W

PROPOSED REJECT.

This comment is not against a changed portion of the draft, a portion of the draft affected by changes, or a portion of the draft that is the subject of unresolved comments associated with "Disapprove" votes. It is out of the scope of the recirculation ballot.

The current draft already recognizes the equivalency of the mode conversion specifications, see P802.3bp, D3.3, Page 144, Lines 42-52

Cl 97 SC 97.6.3.1 P 147 L 46 # r03-5
Moffitt, Bryan CommScope, Inc.

Comment Type E Comment Status D

This section states that pair to pair ANEXT is "specified" but it is not.

SuggestedRemedy

Change: In order to limit the alien crosstalk at the near end of a type A link segment, the differential pair-to-pair near-end crosstalk (NEXT) loss between the disturbed type A link segment and the disturbing type A link segment is specified to meet the bit error ratio objective. To: In order to meet the bit error ratio objective, the differential pair-to-pair near-end alien crosstalk (ANEXT) loss between the disturbed type A link segment and the disturbing type A link segment must be limited.

Proposed Response Response Status W

PROPOSED REJECT.

This comment is not against a changed portion of the draft, a portion of the draft affected by changes, or a portion of the draft that is the subject of unresolved comments associated with "Disapprove" votes. It is out of the scope of the recirculation ballot.

The PSANEXT loss (the requirement) is determined by summing the power of the individual pair-to-pair differential alien NEXT loss values; they are specified to be used in 97-21.

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IEEE P802.3bp D3.1 1000BASE-T1 PHY 3rd Sponsor recirculation ballot comments

CI 97 SC 97.6.3.3 P 149 L 3 # r03-6
Moffitt, Bryan CommScope, Inc.

Comment Type E Comment Status D

Multiple issues with this paragraph; 1) AFEXT is not "specified" 2) Most aspects of this PSAACRF parameter were developed based on the TIA and ISO 4 pair cabling standards, which specify an alien FEXT "insertion loss normalization" calculation that is not included in this standard, but might be a point of confusion since ACRF is not clearly defined here. 3) MDACRF is worded but not given (also irrelevant) so that text should be cleaned 4) ALSO "IS LIMITED" IS MISSING

SuggestedRemedy

Change: In order to limit the alien crosstalk at the far-end of a type A link segment, the differential pair-to-pair alien far-end crosstalk (FEXT) loss between the disturbed type A link segment and the disturbing type A link segment is specified to meet the bit error ratio objective. To ensure the total alien FEXT coupled into a type A link segment, multiple disturber attenuation to crosstalk ratio far-end ACRF is specified as the power sum of the individual alien ACRF disturbers. To: In order to meet the bit error ratio objective, the differential pair-to-pair far-end alien crosstalk (alien FEXT) loss between the disturbed type A link segment and the disturbing type A link segment must be limited. To ensure the total alien FEXT coupled into a type A link segment is limited, the attenuation to crosstalk ratio far-end (ACRF) from all disturbing links is combined as the power sum of the individual alien ACRF disturbers. See Equation (113-23) for ACRF.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add "is limited": Page 149, Line 6

To ensure the total alien FEXT coupled into a type A link segment "is limited", multiple disturber attenuation to crosstalk ratio far-end ACRF is specified as the power sum of the individual alien ACRF disturbers.

CI 97 SC 97.7.2.1 P 151 L 51 # r03-7
Moffitt, Bryan CommScope, Inc.

Comment Type E Comment Status D

1) figure has nothing to do with impedance 2) there is only a single given channel (or link?) for "the MDI" 3) fix with to from 4) simplify the excess in the sentence for clarity

SuggestedRemedy

Change: The differential impedance at the MDI (see Figure 97-43) for each transmit/receive channel shall be such that any reflection (due to differential signals incident upon the MDI with a test port having a differential impedance of 100 Ω) is attenuated relative to the incident signal per Equation (97-29). TO: The differential impedance of the MDI shall be such that any reflection of differential signals incident upon the MDI from a test port having a differential impedance of 100 Ω is attenuated per Equation (97-29) (see Figure 97-43).

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 97 SC 97.11.9 P 164 L 45 # r03-2
RAN, ADEE Intel Corporation

Comment Type T Comment Status D

Acknowledging comment is against an unchanged portion of the draft.

Several PICS items have status "PME28:M". I read this as "dependent on the support marked for PME28", but PME28 (jitter measurement) is mandatory.

Other jitter-related items have status "M".

What does this status mean? is the jitter measurement supposed to be optional?

Also, PME28 has no subclause reference.

SuggestedRemedy

Assuming this is not optional: in items PME20, PME21, , PME22, , PME23, , PME25, PME25a, , PME25b: change status to "M"

In PME28 "Subclause", add reference to 97.5.3.3.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 97 **SC 97.11.10** **P 168** **L 14** # **r03-1**
 RAN, ADEE Intel Corporation

Comment Type G **Comment Status D**

Optional features that create conditions for PICS items are usually placed in the general "Major Capabilities/options" subclause.

I assume fixing that would be a non-substantial change.

SuggestedRemedy

Move PMI5 to 97.11.3, label it "**LSTB". Change status of PMI6 to "LSTB:M".

Proposed Response **Response Status W**

PROPOSED ACCEPT.

Cl 98 **SC 98.3** **P 183** **L 16** # **r03-18**
 McClellan, Brett Marvell Semiconducto

Comment Type T **Comment Status D**

There was a comment on draft 1.5 to remove bit 7.513.0 (Link partner Auto-Negotiation ability), however, the remedy was incomplete.

mr_lp_autoneg_able is still defined and used in the Arbitration state diagram.

Table 98-7 still refers to bit 7.513.0: mr_lp_autoneg_able 7.513.0 Link partner Auto-Negotiation ability

SuggestedRemedy

page 183 line 16 98.3 State diagram variable to Auto-Negotiation register mapping
 delete row entry for "mr_lp_autoneg_able" in Table 98-7--State diagram variable to Single twisted-pair Auto-Negotiation MDIO register mapping

delete definition for "mr_lp_autoneg_able" in 98.5.1 State diagram variables page 188 line 1

In Figure 98-7--Arbitration state diagram page 193,

line 12 delete mr_lp_autoneg_able <= false in ABILITY DETECT

line 22 delete mr_lp_autoneg_able <= true in ACKNOWLEDGE DETECT

Proposed Response **Response Status W**

PROPOSED ACCEPT.