Cl **22** *SC* **Figure 22-6a** *P* **31** *L* **19** # 1

Marris, Arthur Cadence

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

What is the relevance of PLS.CARRIER.indication in this description of transmit operation?

SuggestedRemedy

Consider deleting PLS.CARRIER.indication from this diagram. Or maybe it should be moved to Figure 22-9a which describes receive operation?

Response *Response Status* **C**

REJECT.

PLS.CARRIER.indication is used, along with a Clause 4A MAC, to prevent the MAC from sending data before the wake timer has expired.

This mechanism is based on the proposal from a noted Ethernet expert shown by the following link:

http://www.ieee802.org/3/efm/public/jan02/marris_1_0102.pdf

Cl **36** *SC* **Figure 36-7a** *P* **81** *L* **4** # 2

Marris, Arthur Cadence

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

RXD<7:0> <= 0000 0001 should be add to LP_IDLE state actions.

SuggestedRemedy

as above

Response *Response Status* **C**

ACCEPT.

Cl **36** *SC* **36.2.5.2.6** *P* **83** *L* **47** # 3

Marris, Arthur Cadence

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

Missing underline on added paragraph

SuggestedRemedy

Underline the penultimate paragraph on page 83.

Response *Response Status* **C**

ACCEPT.

Cl **46** *SC* **Table 46-3** *P* **127** *L* **14** # 4

Marris, Arthur Cadence

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

Delete '(in all lanes)'. This does not seem to make sense.

SuggestedRemedy

As above

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The "in all lanes" indicates that LPI must be asserted in all lanes simultaneously.

Change "(in all lanes)" to "(asserted in all lanes simultaneously)" - in Table 46-3 and Table 46-4.

Cl **48** *SC* **Figure 48-3a** *P* **133** *L* **4** # 5

Marris, Arthur Cadence

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

Should it not be LI in all lanes? Not just in lane 0?

SuggestedRemedy

As above

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Yes it should, show LI in all lanes.

See response to 79

Cl **22** *SC* **22.2.2.6a** *P* **30** *L* **33** # 6
Marris, Arthur Cadence

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

It is not the MAC that controls LPI transitions it is the LPI client.

SuggestedRemedy

Change 'MAC device' to 'LPI client' and put in a cross-reference to Clause 78

Do the same in 22.2.2.9a on page 32.

Also in 22.7a on page 33.

Add LPI client to Figure 22-20a removing mention of station management.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "MAC device" to "LPI client"

p.30, l.33; p.32, l.28; p.33, l.9 & l.11

Change "station management" to "LPI client service interface" - p.33, l20 & l36

Add at the beginning of 22.7a:

"Low Power Idle operation and the LPI client are described in Clause 78.1."

Cl **35** *SC* **35.2.2.6a** *P* **70** *L* **47** # 7
Marris, Arthur Cadence

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

It is not the MAC that controls LPI transitions it is the LPI client.

SuggestedRemedy

Change 'MAC device' to 'LPI client' and put in a cross-reference to Clause 78.

Also 35.2.2.9a on page 72.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "MAC device" to "LPI client"

p.70, l.47, l.51; p.71, l.1; p.72, l.45, l.48

At the beginning of 35.2.2.6a, insert:

"Low Power Idle operation and the LPI client are described in Clause 78.1."

Cl **46** *SC* **46.3.1.5a** *P* **127** *L* **44** # 8
Marris, Arthur Cadence

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

It is not the MAC that controls LPI transitions it is the LPI client.

SuggestedRemedy

Change 'MAC device' to 'LPI client' and put in a cross-reference to Clause 78.

Also 46.3.2.4a on page 130.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "MAC device" to "LPI client"

p.127, l.44, l.48, l.51; p.130, l.6, l.8

Add at the beginning of 46.3.1.5a and 46.3.2.4a:

"Low Power Idle operation and the LPI client are described in Clause 78.1."

Cl **46** *SC* **Figure 46-7a** *P* **128** *L* **11** # 9
Marris, Arthur Cadence

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

TXC should show high for regular idle and FB start of frame.

SuggestedRemedy

Have TXC high for everything except the three Xs indicating frame data at the right hand side of the figure.

Also do the same for RXC in Figure 46-8a

Response *Response Status* **C**

ACCEPT.

See #137, 138

Cl **46** *SC* **46.3** *P* **126** *L* **34** # 10

Marris, Arthur Cadence

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

The proposed use of a new type of idle for 10G has a big impact on existing implementations and seems unnecessary when sequence ordered sets could be used for link status signalling.

SuggestedRemedy

Please consider defining a new sequence ordered set to indicate LPI for 10Gbit Ethernet (see Table 46-5 in exisiting 802.3 standard). This would have less impact on existing implementations and could be transported by existing network infrastructure.

Response *Response Status* **C**

REJECT.

Current implementations will not support transitioning power states or interrupting the data stream to support sleep/wake cycles as required by the new standard, so compatibility with existing systems (while signaling LPI) is not an issue.

Cl **36** *SC* **36.2.4.12a** *P* **77** *L* **3** # 11

CHOU, JOSEPH REALTEK SEMICON

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

The meanning and value of TX_LP_IDLE and RX_LP_IDLE are not clearly defined in the draft but are used in the following clauses:
TX_LP_IDLE: 24.2.2, 24.2.2.5, 24.2.3.1, and 36.2.4.12a
RX_LP_IDLE: 24.2.2, 24.2.2.5, 24.2.3.1, 35.2.2.9a, and 36.2.4.12a

SuggestedRemedy

Need to define them or replace them with actual contents

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace the first sentence on lines 3 of page 77 with:

Low Power Idle is transmitted in the same manner as IDLE. Low power idle ordered sets (\LI\) are transmitted continously and repetitively whenever the GMII is indicating "assert low power idle".

Also, on page 72, line 44, delete "(RX_LP_IDLE)" from the sentence.

Cl **24** *SC* **24.2.4.2** *P* **47** *L* **10** # 12

CHOU, JOSEPH REALTEK SEMICON

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

The value of LP_IDLE in Figure 24-8 is not defined here. It is apparently the codeword 0001 specified in Table 22-1 and also defined as TX_LP_IDLE in 24.2.3.1. This LP_IDLE is used in several places in this figure.

SuggestedRemedy

Either replace LP_IDLE with TX_LP_IDLE and define TX_LP_IDLE clearly in 24.2.3.1 or replace it with the value 0001.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace LP_IDLE with TX_LP_IDLE.
Refine the definition of TX_LP_IDLE in line 10 page 44 as follows.
"A value 0001 of transmit nibble-wide Data signals (TXD), together with the deassertion of TX_EN and the assertion of TX_ER on the MII, used to indicate "assert low power idle", as specified in 22.2.2."

Cl **24** *SC* **24.2.4.4** *P* **49** *L* **13** # 13

CHOU, JOSEPH REALTEK SEMICON

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

The value of LP_IDLE in Figure 24-11b is not defined here. It is apparently the codeword 0001 specified in Table 22-2 and also defined as RX_LP_IDLE in 24.2.3.1. This LP_IDLE is used in several places in this figure.

SuggestedRemedy

Either replace LP_IDLE with RX_LP_IDLE and define RX_LP_IDLE clearly in 24.2.3.1 or replace it with the value 0001.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace LP_IDLE with RX_LP_IDLE.
Refine the definition of RX_LP_IDLE in line 14 page 44 as follows.
"A value 0001 of receive nibble-wide Data signals (RXD), together with the deassertion of RX_DV and the assertion of RX_ER on the MII, used to indicate "receive low power idle", as specified in 22.2.2."

Cl **14** *SC* **0** *P* **19** *L* **37** # 14

Maguire, Valerie Siemon

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

Insert text to reference the TIA cabling equivalent to ISO class D. This revision is consistent with text in other locations of the document (see clause 78.1.1, page 237, line 27).

SuggestedRemedy

Revise sentence as follows:

"The medium for 10BASE-Te is a channel meeting or exceeding the requirements of the Class D channel specified by ISO/IEC 11801:1995 or the category 5 channel specified by ANSI/TIA/EIA-568-A-1995."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment was changed from "E" to "T"

Add the following sentence after the sentence on line 37:

These channel requirements can also be met by the category 5 channel specified by ANSI/TIA/EIA-568-A-1995.

Cl **14** *SC* **0** *P* **21** *L* **4** # 15

Maguire, Valerie Siemon

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

Insert text to reference the TIA cabling equivalent to ISO class D. This revision is consistent with text in other locations of the document (see clause 78.1.1, page 237, line 27).

SuggestedRemedy

Revise sentence as follows:

"...so that it matches the worst case insertion loss for a Class D channel as specified in ISO/IEC 11801:1995 or for a category 5 channel as specified in ANSI/TIA/EIA-568-A-1995."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment was changed from "E" to "T"

Change the first sentence on the page to:

For a type 10BASE-Te MAU, the insertion loss of the twisted-pair model when measured with a 100 Ω source and 100 Ω load shall be between 6.8 dB and 7.4 dB at 10 MHz, and between 4.75 dB and 5.25 dB at
5 MHz.

Cl **14** *SC* **0** *P* **25** *L* **20** # 16

Maguire, Valerie Siemon

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

Insert text to reference the TIA cabling equivalent to ISO class D and add a note (similar to the existing ISO note) indicating that the latest version of the standard specifies a media the exceeds the minimum requirements of the standard. This revision is consistent with text in other locations of the document (see clause 78.1.1, page 237, line 27).

Note: ANSI/TIA-568-C.2 is anticipated to published August, 2008.

SuggestedRemedy

Insert text as follows:

"...the requirements of the Class D channel specified by ISO/IEC 11801:1995 or the category 5 channel as specified in ANSI/TIA/EIA-568-A-1995.

NOTE - ANSI/TIA-568-C.2 provides a specification for category 5e media that exceeds the minimum requirements of this standard."

Leave the note related to ISO as it stands.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment was changed from "E" to "T"

Insert text as follows:

"...the requirements of the Class D channel specified by ISO/IEC 11801:1995 or the category 5 channel as specified in ANSI/TIA/EIA-568-A-1995."

Delete the Note on lines 23/24 as this note reflects unchanged text in the base standard.

Cl **14** *SC* **0** *P* **19** *L* **14** # 17

Maguire, Valerie Siemon

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

Insert text to reference the TIA cabling equivalent to ISO class D. This revision is consistent with text in other locations of the document (see clause 78.1.1, page 237, line 27).

SuggestedRemedy

Insert text as follows:

"...for operation over 0 m to at least 100 m of ISO/IEC 11801:1995 Class D, ANSI/TIA/EIA-568-A-1995 category 5, or better cabling."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment was changed from "E" to "T"

Replace the last sentence shown on lines 13/14 with:
The 10BASE-Te PHY operation requires ISO/IEC 11801:1995 Class D or better cabling. This requirement can also be met by Category 5 cable and components as specified in ANSI/TIA/EIA-568-A-1995.

Cl **45** *SC* **45.2.3.9b** *P* **121** *L* **25** # 18

McIntosh, James Vitesse

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

I realized the acronym WTF clearly has the technical meaning of "Wake Time Fault" in this context, but there is another common use of this acronym among the internet community that is inappropriate.

SuggestedRemedy

Avoid use of acronym WTF, or replace with a diffrent one.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace "WTF" with "fault"

Cl **40** *SC* **40.2.11** *P* **95** *L* **8** # 19

McIntosh, James Vitesse

Comment Type **ER** *Comment Status* **A**

There is a subclause numbering problem starting here. There are two subclause 40.2.11s. The first is on page 94, line (PMA_LPIMODE.indication) and the second is on page 95, line 8 (PMA_LPIREQ.request).

SuggestedRemedy

Renumber subclauses 40.2.xx starting here (page 95, line8):
40.2.12 PMA_LPIREQ.request

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Also complete the definition of the primitive PMA_LPIMODE.indication by adding:

40.2.1.2 When generated
The PMA PHY Control function generates PMA_LPIMODE.indication messages continuously.

40.2.1.3 Effect of receipt
Upon receipt of this primitive, the PCS performs its Receive function as described in 40.3.1.4.

Cl **40** *SC* **40.5.1.1** *P* **111** *L* **25** # 20

McIntosh, James Vitesse

Comment Type **ER** *Comment Status* **A**

Register 3.22 in Table 40.3 is called "1000BASE-T wake error counter" here, but called "EEE wake error counter" in clause 45.

SuggestedRemedy

Rename to "EEE wake error counter".

Response *Response Status* **C**

ACCEPT.

Also corrected PICS PMF33.

Cl **45** *SC* **45.2.3.2** *P* **119** *L* **21** # 21

McIntosh, James Vitesse

Comment Type **ER** *Comment Status* **A**

LL is defined in Table 45-84 as Latching Low. LH is not defined here, but I assume that it stands for Latching High.

SuggestedRemedy

Add footnote to bottom of Table 45-84:
LH = Latching High

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.9a.5** *P* **121** *L* **15** # 22

McIntosh, James Vitesse

Comment Type **ER** *Comment Status* **A**

We reference subclause 40.2.11 here and in subcluse 45.2.7.13a.5 (page 122, line 53) as the definition of support of EEE operation for 1000BASE-T. This does not seem correct. Would 40.1.3 be a better reference?

SuggestedRemedy

Change reference/link to 40.1.3 (or the appropriate reference).

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.3.9a.6** *P* **121** *L* **19** # 23

McIntosh, James Vitesse

Comment Type **ER** *Comment Status* **A**

We reference subclause 25.4.11 here and in subcluse 45.2.7.13a.6 (page 123, line 3) as the definition of support of EEE operation for 100BASE-TX. This does not seem correct. Would 24.1.1 be a better reference?

SuggestedRemedy

Change reference/link to 24.1.1 (or the appropriate reference).

Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.1.2** *P* **112** *L* **27** # 24
Healey, Adam LSI Corporation

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

Unformatted next page 4 serves no purpose and need not be sent.

SuggestedRemedy

Delete Page 4 (Unformatted next page) from Table 40-4.

Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.3** *P* **90** *L* **4** # 25
Healey, Adam LSI Corporation

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

Additional test modes should be defined to facilitate verification of a device's compliance to the specification.

SuggestedRemedy

Presentation to be submitted for Task Force review.

Response *Response Status* **C**

REJECT.

Consensus of the task force is that these test modes are not required to verify compliance

Cl **22** *SC* **22.7a.2.2** *P* **34** *L* **30** # 26
Healey, Adam LSI Corporation

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

It has been established that no PHY, within the scope of P802.3az, requires a minimum LPI assertion time.

SuggestedRemedy

Delete the definition of li_timer and its use in the Transmit LPI state diagram (Figure 22-21).

Response *Response Status* **C**

ACCEPT.

Cl **24** *SC* **24.2.4.2** *P* **47** *L* **12** # 27
Healey, Adam LSI Corporation

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

Now that lpi_tx_ts_timer and lpi_tx_tr_timer are of the same duration, the states TX_SLEEP and TX_REFRESH are essentially identical in that the execute the same actions and share the same exit conditions. The state diagram could be simplified by merging them.

SuggestedRemedy

Merge the TX_SLEEP and TX_REFRESH states.

Response *Response Status* **C**

ACCEPT.

The following area of draft need to be changed accordingly:

1. Remove state TX_REFRESH of Figure 24-8. Add "tx_quiet<=FALSE" action to TX_SLEEP state.
2. Remove description of lpi_tx_tr_timer in page 46.
3. Modify the row containing Refresh in Table 24-2 to make it refer to the Sleep state.

Cl **28C** *SC* **28C.12** *P* **256** *L* **44** # 28
Healey, Adam LSI Corporation

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

"...with at least two unformatted next pages that contain information defined in 45.2.7.13a."

There is currently only one unformatted next page following the message page.

SuggestedRemedy

Change to "...with at least one unformatted next page..."

Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.2.7** *P* **112** *L* **36** # 29

Healey, Adam LSI Corporation

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

1. There is no need to define an upper bound on the signal level that is delivered after 700 ns. A PHY that delivers a full amplitude signal should still be compliant.

2. The concept of "symbols ratio" is not clearly defined in the draft, but for the purpose of the wake signal is seems that nothing more than the signal level needs to be defined.

SuggestedRemedy

Change:
"The wake signal shall be between 50 and 75% of the nominal idle levels with a symbols ratio within 10% of a nominal idle signal. These requirements shall be met within 700 ns following entry into the WAKE state."

To:
"The wake signal shall be no less than 50% of the nominal idle levels within 700 ns following entry into the WAKE state."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"The wake signal shall be no less than 65% of the nominal idle levels within 700 ns following entry into the WAKE state."

Cl **40** *SC* **40.5.1.2** *P* **111** *L* **39** # 30

Healey, Adam LSI Corporation

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

This text should be updated to describe the additional next page exchanges for Energy Efficient Ethernet.

SuggestedRemedy

Update the text accordingly.

Response *Response Status* **C**

ACCEPT.

The text will be consistent with the information already recorded in Annex 28C and Clause 45.

Cl **40** *SC* **40.5.1.2** *P* **112** *L* **20** # 31

Healey, Adam LSI Corporation

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

Table 40-4 is missing the EEE Technology Message page.

SuggestedRemedy

Define Page 3 as a Message next page with the EEE technology message code. Page 4 would then be the Unformatted next page currently defined as Page 3.

Response *Response Status* **C**

ACCEPT.

Cl **22** *SC* **22.2.2.6a** *P* **31** *L* **4** # 32

Traeber, Mario Infineon Technologies

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

"> minimum LPI assertion time" in Figure 22-6a became obsolete in one of the last drafts and is not referred somewhere else anymore.

SuggestedRemedy

Remove it from the drawing

Response *Response Status* **C**

ACCEPT.

Comment type changed to a T

See also #26

Cl **78** *SC* **78.2.3** *P* **244** *L* **29** # 33

Traeber, Mario Infineon Technologies

Comment Type **ER** *Comment Status* **A**

100BASE-TX timing parameters contain inconsistent values (MAX=MIN and not fitting to clause 24)

SuggestedRemedy

Insert Timing Values which are consistent to Table 24-2

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #243

Cl **24** *SC* **24.2.2.1.1** *P* **42** *L* # 34

Traeber, Mario Infineon Technologies

Comment Type **ER** *Comment Status* **A**

PCS code group P does not properly specify the MII (TXD/RXD) which is "undefined". In general this would also hold true for the Idle "I" group.

SuggestedRemedy

Make a link into clause 22 specifing the coding of P at the MII or alternatively inserting "0001" and a footnot commenting on TX_EN and TX_ER coding.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert "0001" and provide a reference to clause 22

----------previous discussion-------
There is no codegroup P transmitted or received during the Quiet state while MII is sending or receiving 0001. Therefore, one cannot equate a code in MII to the code P in PCS.

Cl **24** *SC* **24.2.4.4** *P* **49** *L* # 35

Traeber, Mario Infineon Technologies

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

The RX_SLEEP state does not encode all possible cases for a state-transition leading to a hand-up of the FSM in case of Transmitter false behavior. In particular this happens when the lpi_rx_ts_timer expires but still signal power is present (which might be subject to a transmitter false behavior).

SuggestedRemedy

Introduce a state-transition to RX_LPI_LIN_FAIL when signal_status=ON*lpi_rx_ts_timer_done

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change figure 24-11b as follows:
Add a branch from RX_SLEEP to RX_LPI_LINK_FAIL with condition "lpi_rx_ts_timer_done".
Change the condition of branch from RX_SLEEP to START_RX_QUIET to "signal_status = OFF".
Change the condition of branch from WAIT_IDLE to RX_SLEEP to "signal_status = OFF +lpi_rx_ts_timer_not_done * rx_bits[9:0] /=IDLES".

Modify the definition of lpi_rx_ts_timer on page 45 as follows:

lpi_rx_ts_timer

In low power receive state, this receiver timer counts the maximum duration PHY is allowed to stay in Sleep state before assuming a link failure. The timer shall have a period between 240 us to 260 us.

Cl **22** *SC* **22.7a.2** *P* **35** *L* # 36

Traeber, Mario Infineon Technologies

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

Figure 22-21 TX LPI State Diagram does not include the case when the MAC is allowed to assert LPI first after a link-up. In particular this could cause problems in 100BASE-TX modes since the state-diagram suggests that the MAC could signal an LPI assertion directly after reset, i.e. during ANEG (which is useless) or link-up of 100BASE-TX. This in turn could cause link-up instabilities.

SuggestedRemedy

Introduce a state "WAIT_ON_LINKUP" into which a transition goes after reset. Only after Link-Up has been indicated via Management Registers the MAC is allowed to assert LPI. In case of a Link-Down or reset a re-transition into "WAIT_ON_LINKUP" is required.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The suggested remedy will not have the desired effect. The TX LPI state machine does not restrict the signaling of LPI from the LPI client to the PHY, it only controls the flow of data from the MAC to the PHY during wake.

Alternative solution:

In 22.7a.1 LPI messages (p.34, l.3) add the following:

"LPI_IDLE.request shall not be set to ASSERT unless the attached link is operational (i.e. link_status = READY, see 28.2.6.1.1). LP_IDLE.request shall remain to be set to DEASSERT for 1 second following link_status changing state to READY."

Cl **35** *SC* **35.1.1** *P* **69** *L* **25** # 37

Booth, Brad AMCC

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

Sentence is a bit confusing.

SuggestedRemedy

Change to read:
The GMII may also support low power idle signaling as defined for Energy Efficient Ethernet in Clause 78.

Response *Response Status* **C**

ACCEPT.

The GMII may also support low power idle signaling as defined for Energy Efficient Ethernet in Clause 78 for some PHY types.

Cl **51** *SC* **51.8a.1** *P* **159** *L* **41** # 38

Booth, Brad AMCC

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

The PMA sublayer mentions a PMD signal called energy_detect, but there is no energy_detect in any of the supporting PMD sublayers.

The PCS also references this signal.

Could this signal be an extra state of the signal_detect from the PMD? The SIGNAL_OK could be expanded to be OK, FAIL and ENERGY_DETECTED.

SuggestedRemedy

Either add energy_detect to the PMD sublayers or add a new state for the signal_detect variable from the PMD.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change definition for signal_detect in Clause 72 to fulfill energy_detect function (similarly to other PMDs).

"For Energy Efficient Ethernet, the SIGNAL_DETECT parameter shall be set to OK within 2µs after activation of a compliant transmitter and shall be set to FAIL within 2µs after deactivation of a compliant transmitter."

Change to:

"For Energy Efficient Ethernet, the SIGNAL_DETECT parameter can take on one of two values: OK or FAIL, indicating whether the PMD is detecting electrical energy at the receiver (OK) or not (FAIL). When SIGNAL_DETECT = FAIL, PMD_UNITDATA.indication(rx_bit) is undefined."

Also, change the definition of energy_detect in 51.8a.1:

"A boolean variable sent from the PMD that is set to TRUE when signal energy is detected at the receiver and is set to FALSE otherwise. This variable is derived directly from the PMD signal_detect parameter. When PMD signal_detect is OK, energy_detect is TRUE; when PMD signal_detect is FAIL, energy_detect is FALSE."

Cl **51** *SC* **51** *P* **159** *L* **26** # 39

Booth, Brad AMCC

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

The PMA service interface also has a physical instantiation known as XSBI. There are no changes to XSBI to permit the exchange of the energy_detect variable across the physical interface.

SuggestedRemedy

Provide a means to pass the energy_detect information across XSBI.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Edit 51.4.1

Add energy_detect, rx_quiet, tx_quiet into Fig 51-3

Add definitions in 51.4.2

energy_detect: If the optional Energy Efficient Ethernet function is supported (see Clause 78) then the XSBI interface includes energy_detect as described in 51.8a.

rx_quiet: If the optional Energy Efficient Ethernet function is supported (see Clause 78) then the XSBI interface may include rx_quiet as described in 51.8a.

tx_quiet: If the optional Energy Efficient Ethernet function is supported (see Clause 78) then the XSBI interface may include tx_quiet as described in 51.8a.

Cl **22** *SC* **22.2.1.3.3** *P* **29** *L* **20** # 40

Dietz, Bryan Alcatel-Lucent

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

Note that this paragraph was the subject of a maintenance request at the last meeting. The first sentence is supposed to be removed, either by 802.3az or another project.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Comment type changed to a T

See revision item
http://ieee802.org/3/maint/requests/maint_1205.pdf

and revision history (look at item 1205)
http://ieee802.org/3/maint/requests/revision_history.html

Cl **22** *SC* **22.7a** *P* **33** *L* **1544** # 41

Dietz, Bryan Alcatel-Lucent

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

Clarify explanation of LPI operation by editing text. The following sentence is unclear and hard to read.

"Similarly, RX_ER and RXD<3:0> are mapped to PLS_DATA.indication except when LP_IDLE is detected and CRS is mapped to PLS_CARRIER.indication except when LP_IDLE.request is asserted or the wake timer has yet to expire."

SuggestedRemedy

Restructure the following paragraph:

"The LPI assertion and detection mechanism fits conceptually between the PLS Service Primitives and the MII signals as shown in Figure 22-20a. The definition of TX_EN, TX_ER and TXD<3:0> is derived from the state of PLS_DATA.request (22.2.1.1), except when it is overridden by an assertion of LP_IDLE.request. Similarly, RX_ER and RXD<3:0> are mapped to PLS_DATA.indication except when LP_IDLE is detected and CRS is mapped to PLS_CARRIER.indication except when LP_IDLE.request is asserted or the wake timer has yet to expire."

to read (use bullets for the sub points)

"The LPI assertion and detection mechanism fits conceptually between the PLS Service Primitives and the MII signals as shown in Figure 22-20a.

"□The definition of TX_EN, TX_ER and TXD<3:0> is derived from the state of PLS_DATA.request (22.2.1.1), except when it is overridden by an assertion of LP_IDLE.request.

"□Similarly, RX_ER and RXD<3:0> are mapped to PLS_DATA.indication, except when LP_IDLE is detected

"□CRS is mapped to PLS_CARRIER.indication, except when LP_IDLE.request is asserted or the wake timer has yet to expire."

Response *Response Status* **C**

ACCEPT.

Cl **24** *SC* **24.4.1** *P* **53** *L* **53** # 42
Dietz, Bryan Alcatel-Lucent

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

Typo:

SuggestedRemedy

Typo: change "the Energy Efficient Ethernet" to "Energy Efficient Ethernet".

Response *Response Status* **C**

ACCEPT.

Cl **24** *SC* **24.4.1.5** *P* **54** *L* **35** # 43
Dietz, Bryan Alcatel-Lucent

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

Typo:

SuggestedRemedy

Insert space between "4" and "Figure 24-8".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the "4" in "4Figure 24-8"

Cl **35** *SC* **35.2.2.4** *P* **70** *L* **912** # 44
Dietz, Bryan Alcatel-Lucent

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

Editorial change: use of "and" to join two unlike clauses.

SuggestedRemedy

Replace paragraph:

"While TX_EN is de-asserted and TX_ER is asserted, TXD<7:0> are used to request the PHY to generate an assertion of low power idle; Carrier Extend or Carrier Extend Error code-groups. The use of TXD<7:0> during the transmission of a frame with carrier extension is described in 35.2.2.5 and low power idle transitions are described in 35.2.2.6a. Carrier extension shall only be signaled immediately following the data portion of a frame."

With:

"While TX_EN is de-asserted and TX_ER is asserted, TXD<7:0> are used to request the PHY to generate an assertion of low power idle, Carrier Extend or Carrier Extend Error code-groups. The use of TXD<7:0> during the transmission of a frame with carrier extension is described in 35.2.2.5. Carrier extension shall only be signaled immediately following the data portion of a frame. The use of TXD<7:0> to signal low power idle transitions is described in 35.2.2.6a."

Response *Response Status* **C**

ACCEPT.

Cl **35** *SC* **35.2.2.7** *P* **71** *L* **35** # 45
Dietz, Bryan Alcatel-Lucent

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

Editorial change: use of "and" to join two unlike clauses.

SuggestedRemedy

Replace paragraph:

"While RX_DV is de-asserted, the PHY may provide a False Carrier indication or assert low power idle by asserting the RX_ER signal while driving the specific value listed in Table 35-2 onto RXD<7:0>. See 36.2.5.2.3 for a description of the conditions under which a PHY will provide a False Carrier indication and low power idle transitions are described in 35.2.2.9a."

"While RX_DV is de-asserted, the PHY may provide a False Carrier indication or assert low power idle by asserting the RX_ER signal while driving the specific value listed in Table 35-2 onto RXD<7:0>. See 36.2.5.2.3 for a description of the conditions under which a PHY will provide a False Carrier indication. Low power idle transitions are described in 35.2.2.9a."

Response *Response Status* **C**

ACCEPT.

Cl **46** *SC* **46.3.1.5a** *P* **128** *L* **2** # 46
Dietz, Bryan Alcatel-Lucent

Comment Type **E** *Comment Status* **A**
Typo

SuggestedRemedy
Delete one of the two periods.

Response *Response Status* **C**
ACCEPT.

Cl **49** *SC* **49.2.4.4** *P* **145** *L* **54** # 47
Dietz, Bryan Alcatel-Lucent

Comment Type **E** *Comment Status* **A**
Typo

SuggestedRemedy
Replace trailing right parenthesis with period.

Response *Response Status* **C**
ACCEPT.

Cl **71** *SC* **71.1** *P* **208** *L* **45** # 48
Dietz, Bryan Alcatel-Lucent

Comment Type **E** *Comment Status* **A**
Consistent terminology

SuggestedRemedy
Change "inter-frame" to "inter-frame idle"

Response *Response Status* **C**
ACCEPT.

Cl **71** *SC* **71.6.12** *P* **210** *L* **29** # 49
Dietz, Bryan Alcatel-Lucent

Comment Type **E** *Comment Status* **A**
Change /LPI/ to /LI/ to be consistent with rest of document. Also make the same change in page 220, line 18.

SuggestedRemedy
Change /LPI/ to /LI/ to be consistent with rest of document. Also make the same change in page 220, line 18.

Response *Response Status* **C**
ACCEPT.

Cl **72** *SC* **72.1** *P* **218** *L* **18** # 50
Dietz, Bryan Alcatel-Lucent

Comment Type **E** *Comment Status* **A**
Change "inter-frame" to "inter-frame idle" to be consistent with the rest of the document.

SuggestedRemedy
Change "inter-frame" to "inter-frame idle" to be consistent with the rest of the document.

Response *Response Status* **C**
ACCEPT.

Cl **74** *SC* **74.7.4.7** *P* **231** *L* **4** # 51
Dietz, Bryan Alcatel-Lucent

Comment Type **E** *Comment Status* **A**
Typo

SuggestedRemedy
Remove period before "FEC"

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.5.1** *P* **241** *L* **410** # 52
Dietz, Bryan Alcatel-Lucent

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

Clarify text. Edit the "de-assert" description to match the style and format of the "assert" description by combining two short paragraphs.

SuggestedRemedy

Change the three paragraphs starting at page 240 line 51 to read:

"When the Low Power Idle request is deasserted, indicated by the LPI_REQUEST parameter set to DEASSERT in the LP_IDLE.request primitive of the LPI Client interface, the LPI assert function starts to transmit the 'normal inter-frame' encoding on the xMII. After a delay the LPI assert function sets the CARRIER_STATUS parameter to CARRIER_OFF in the PLS_CARRIER.indication primitive of the PLS service interface, allowing the MAC to start transmitting again.

The delay on deassert is provided to allow the link partner to prepare for normal operation.

The delay has a PHY dependant default value but this value can be adjusted using the Data Link Layer capabilities defined in 78.4.

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.2.2** *P* **243** *L* **27** # 53
Dietz, Bryan Alcatel-Lucent

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

Change "Low Power Mode" to "Low Power Idle Mode" to match other definitions on this page.

SuggestedRemedy

Change "Low Power Mode" to "Low Power Idle Mode" to match other definitions on this page.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Text was changed. See response to comment # 214.

Cl **78** *SC* **78.3** *P* **244** *L* **43** # 54
Dietz, Bryan Alcatel-Lucent

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

Change "using frames" to "using L2 protocol frames".

SuggestedRemedy

Change "using frames" to "using L2 protocol frames".

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.4** *P* **245** *L* **5** # 55
Dietz, Bryan Alcatel-Lucent

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

Minor editorial clarification.

SuggestedRemedy

Change "Devices that require additional sleep times" to "Devices that require longer wake up times".

Response *Response Status* **C**

ACCEPT.

Good catch, we specify wake up and not sleep times. Changed type to technical in the Comment Type field.

Cl **78** *SC* **78.4** *P* **245** *L* **18** # 56
Dietz, Bryan Alcatel-Lucent

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

Use plural form

SuggestedRemedy

Change "Implementation" to "Implementations".

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.4.1.2** *P* **246** *L* **3940** # 57
Dietz, Bryan Alcatel-Lucent

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

First sentence in paragraph is duplicated.

SuggestedRemedy

Remove duplicated first sentence in this paragraph. Remove duplicated first sentence in this paragraph.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Agreed. Commenter has also duplicated his suggested remedy!

Cl **78** *SC* **78.4.1.2** *P* **246** *L* **37** # 58
Dietz, Bryan Alcatel-Lucent

Comment Type **E** *Comment Status* **R**

Clarification

SuggestedRemedy

Consider swapping sections 78.4.1.1 and 78.4.1.2. The meaning of Tw is more clear if the Receive Tw is described before Transmit Tw.

Response *Response Status* **C**

REJECT.

Both sections reference the "other side" of the link (i.e. TX to RX and vice-versa) hence clarification by swapping maybe marginal and an argument for keeping as is may be made for clarification as well.

Cl **78** *SC* **78.4.4.1** *P* **247** *L* **51** # 59
Dietz, Bryan Alcatel-Lucent

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

Typo

SuggestedRemedy

Add space before word "constants".

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.4.4.3** *P* **249** *L* **7** # 60
Dietz, Bryan Alcatel-Lucent

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

Clarify meaning of variable.

SuggestedRemedy

Insert "Data Link Layer ready" before "This variable indicates." The term "dll" has other software meanings that are confusing in this case.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In addition to requested change see if there is an abbreviation for DLL anywhere in 802.3-2008 or P802.3at. If not, consider adding one.

Cl **78** *SC* **78.4.4.5** *P* **250** *L* **9** # 61
Dietz, Bryan Alcatel-Lucent

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

EEE is defined only for point-to-point full duplex links. Delete "a set of" or replace with "two".

SuggestedRemedy

EEE is defined only for point-to-point full duplex links. Delete "a set of" or replace with "two".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Intent is to mean an RX and TX link partners not an RX and TX on an individual port.

With that clarification, commenter is encouraged to submit alternate text if he feels a clarification is still needed

Cl **78** *SC* **78.4.5.1** *P* **253** *L* **49** # 62

Dietz, Bryan Alcatel-Lucent

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

Simplify text describing state diagram operation.

SuggestedRemedy

Simplify text by replacing:

"Irrespective of whether the transmitting link partner enters the SYSTEM REALLOCATION state from the TX UPDATE state; it ultimately returns to the RUNNING state through the UPDATE MIRROR state where it updates the echo for the Receive Tw_sys."

with

"The transmitting link partner enters MIRROR UPDATE state either from SYSTEM REALLOCATION or directly from TX UPDATE state. UPDATE MIRROR state then updates the echo for the Receive Tw_sys and returns to the RUNNING state."

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.4.4.5** *P* **252** *L* **24** # 63

Dietz, Bryan Alcatel-Lucent

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

Variable "New_RX_VALUE" in left exit condition from CHANGE should be "NEW_RX_VALUE".

SuggestedRemedy

Variable "New_RX_VALUE" in left exit condition from CHANGE should be "NEW_RX_VALUE".

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.4.5.2** *P* **254** *L* **12** # 64

Dietz, Bryan Alcatel-Lucent

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

Clarify explanation of state diagram operation.

SuggestedRemedy

Clarify text by replacing:

"Irrespective of whether the receiving link partner enters the SYSTEM REALLOCATION state, it ultimately gets to the RX UPDATE state."

with

"The receiving link partner ultimately enters RX UPDATE state, either from SYSTEM REALLOCATION state or directly from CHANGE state."

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.4.3** *P* **247** *L* **22** # 65

Dietz, Bryan Alcatel-Lucent

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

The times listed in paragraph 1 and paragraph 2 should be consistent.

SuggestedRemedy

Insert "Under normal operation," in front of first sentence of paragraph.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"under normal operation" was carry over from .3at where there was legacy support issues for Type-1. There is no need for it here. Delete "under normal operation" in the paragraphs starting on lines 30 and 34.

Cl **78** *SC* **78.1.5.3.1** *P* **241** *L* **39** # 66

Dietz, Bryan Alcatel-Lucent

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

100Base-T should be 100Base-TX.

SuggestedRemedy

Change 100Base-T to 100Base-TX

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.2.3** *P* **243** *L* **42** # 67
Dietz, Bryan Alcatel-Lucent

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

Please add "(SSD)" after "start of shell delimiter". This would clarify references in other parts of the text.

SuggestedRemedy

Please add "(SSD)" after "start of shell delimiter". This would clarify references in other parts of the text.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Text was also revamped. See response to comment #214

Cl **78** *SC* **78.4.4.5** *P* **251** *L* **28** # 68
Dietz, Bryan Alcatel-Lucent

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

The state diagram transition condition between TX UPDATE and SYSTEM REALLOCATION contains an "OR" that should be an "AND".

This comment was discussed in the L2 ad-hoc, and should be fixed in part of the ad-hoc report.

SuggestedRemedy

Change condition to "AND".

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.4.4.5** *P* **252** *L* **16** # 69
Dietz, Bryan Alcatel-Lucent

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

The state diagram transition condition between RUNNING and CHANGE depends upon a condition RemTxSystemValue CHANGED. The meaning of CHANGED is not specified - CHANGED since what or since when.

See also page 251 line 15.

This comment was discussed in the L2 ad-hoc and the fix should be part of the ad-hoc report.

SuggestedRemedy

There are two potential changes: add a note to explain CHANGED or define a variable that can be compared against RemTxSystemValue.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

2nd suggested remedy (variable) as this is consistent with P802.3at.

See motion 2.

Cl **78** *SC* **78.1.1** *P* **237** *L* **27** # 70
Dietz, Bryan Alcatel-Lucent

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

Editorial suggestion

SuggestedRemedy

Change "Definition of 10BASE-Te allows power consumption saving." to "The definition of 10Base-Te allows reduced power consumption."

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.4** *P* **239** *L* **3** # 71
Dietz, Bryan Alcatel-Lucent

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

Parts of this clause use smaller than normal typeface.

SuggestedRemedy

Update type faces to match.

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.4** *P* **239** *L* **5** # 72
Dietz, Bryan Alcatel-Lucent

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

Word "primatives" is misspelled

SuggestedRemedy

Change to "primatives"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to "primitives"

Cl **78** *SC* **78.1.5.1** *P* **240** *L* **53** # 73
Dietz, Bryan Alcatel-Lucent

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

Typo

SuggestedRemedy

Capitalize "the" at the start of the last sentence in the paragraph.

Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.8** *P* **224** *L* **5** # 74
Bennett, Michael LBNL

Comment Type **ER** *Comment Status* **A**

It appears that the subclause reference in the editor's change instructions are off by 1 on lines 5, 40 and 44.

SuggestedRemedy

on line 5, change 72.7.3 to 72.8.3
on line 40, change 72.7.3 to 72.8.3
on line 44, change 72.7.3 to 72.8.3

Response *Response Status* **C**

ACCEPT.

Need add some major headers and fix a couple of mis-number ones.

Cl **72** *SC* **72.8.3** *P* **224** *L* **23** # 75
Bennett, Michael LBNL

Comment Type **ER** *Comment Status* **A**

Table 72.8.3 states that FEC is optional, however the support choice is "Yes"
There should be a choice of "No"

This existed before we opened the clause, so I want to discuss whether or not we fix it or submit a maintenance request, but this is low proirity

SuggestedRemedy

If we are going to fix it, add a "No[]" choice

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
I'll add the "No [ ]" choice.

Cl **72** *SC* **72.8** *P* **225** *L* **28** # 76
Bennett, Michael LBNL

Comment Type **ER** *Comment Status* **A**

line 28 has:

FS12 Low Power Idle function 72.6.11 Enters LowPower_st when requested
LPI:M Yes [ ] N/A

there are no brackets after the N/A

SuggestedRemedy

add brackets after N/A

Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* *P* *L* # 77
Bennett, Michael LBNL

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

Subclause references and value/comment fields are incomplete on lines 43 and 45 and Subclause references on lines 48, 50 and line 3 on page 228 are incomplete. Subclauses refer to 72.6.11.x

For example on p 227, the feature is "LPI Transmit state diagram" and the subclause is 72.6.11.x, the value/comment is Meets requirement of
Figure72-x, but the LPI Transmit state diagram is shown in figure 49-16 on page 154

SuggestedRemedy

Change references to point to the relevant PCS clauses.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Will remove deleted requirements and fix references.

Cl **72** *SC* **72.6.11** *P* **220** *L* **14** # 78
Bennett, Michael LBNL

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

On line 14:

Energy Efficient Ethernet capabilities and parameters will be advertised during the Backplane Auto-negotiation, as described in Clause 45

Should be clause 73

SuggestedRemedy

change to refer to clause 73

Response *Response Status* **C**

ACCEPT.

Cl **48** *SC* **Fig48-3a** *P* **133** *L* # 79
Pillai, Velu Broadcom

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

LI should be asserted on all four lanes

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **Fig 49-15** *P* **153** *L* # 80
Pillai, Velu Broadcom

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

Transition to RX_INIT should be reset+ r_test_mode + hi_ber + !rx_block_lock

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **Table 72-6** *P* **222** *L* # 81
Pillai, Velu Broadcom

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

Subclause reference is wrong for Vtw, Vtd, and Vta

SuggestedRemedy

Correct sublcause reference is 72.6.5

Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **Table 72.9** *P* **223** *L* # 82
Pillai, Velu Broadcom

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

Subclause reference is wrong for Tsd and Tsa

SuggestedRemedy

Correct sublcause is 72.6.4

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **Fig 49-17** *P* **155** *L* # 83
Pillai, Velu Broadcom

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

RX_DEACT state is missing. Please refer to the state diagram shown in page 5 of pillai_01_0409

SuggestedRemedy

Response *Response Status* **C**

REJECT.

Comment #89 in the previous draft argued (successfully) that this state is not required.

See response to Comment # 90

Cl **74** *SC* *P* *L* # 84
Pillai, Velu Broadcom

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

What is the effect of link being on low power state on the FEC Lock state diagram is not clear from the current clause 74 in the IEEE802.3az specification ? It is not clear if the fec_block_lock must go to false when the transmission on the link has stopped i.e. when link is in low power state.

SuggestedRemedy

The state diagram (figure 74-8 of the IEEE 802.3 spec) could be updated to clarify the effect of energy_detect = false.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a new state to Fig 74-8 to stay in during the EEE mode.
The exit transition out of this new state is qualified by
"parity_good + rapid_parity_good". Also add
rx_lpi_active to the transition to FEC_LOCK_INT.
The new condition should look like
reset + (!signal_ok * !rx_lpi_active).

Add rx_lpi_active to fig 74-8.

Cl **74** *SC* *P* *L* # 85
Pillai, Velu Broadcom

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

FEC Counters may show false errors during transitions in and out of Quiet mode.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Add text to bypass FEC counter during LPI mode

Cl **74** *SC* **Annex 74A** *P* *L* # 86
Pillai, Velu Broadcom

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

Table B1 and Table C1 sequences has errors. Need corrections.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Table B1 will be removed.

C1 will be corrected. New text will be underlined.

Cl **49** *SC* **Fig 49-15** *P* **153** *L* # 87
Pillai, Velu Broadcom

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

This state machine does not handle LI code words appearing during normal mode.
pillai_01_0409 page 3 shows the necessary changes.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #151

Cl **49** *SC* **Fig 49-15** *P* **153** *L* # 88

Pillai, Velu Broadcom

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

State RX_LI has
rx_raw . DECODE(rx_coded)

SuggestedRemedy

It should be
rx_raw <= LI

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #149

Cl **49** *SC* **Fig 49-15** *P* **153** *L* # 89

Pillai, Velu Broadcom

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

The arc that loops back for RX_LI is qualified by "!signal_ok + R_TYPE(rx_coded) = LI". When the transmitter starts the refresh or wake sequence the signal_ok becomes valid, but R_TYPE may not be LI. Which means the state machine will arc towards RX_E. This will assert an error in the RS layer.

SuggestedRemedy

It should be ""rx_lpi_active" to be consistant with 10GBASE-T state diagram.
This state diagram should keep asserting /LI/ towards the RS layer, until the RX LPI State diagram comes out of LPI mode. Please refer to pillai_01_0409

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #149, 150

Cl **49** *SC* **49-16** *P* **154** *L* # 90

Pillai, Velu Broadcom

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

TX_REFRESH is still shown in this state diagram. This will not handle the PHy when FEC is enabled. In March pillai_01_0309 proposed changes to KR phy when FEC is enabled. In order to handle that proposal this statemachine needs the changes as shown in page 4 of pillai_01_0409.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

It appears that the only functional difference between the state machine shown on page 4 of pillai_01_0409 is that PHYs with scrambler_reset_enable = TRUE will bypass the scrambler during refresh as well as wake.

There does not appear to be any benefit to this and this will increase the refresh time by 2 microseconds.

Make the following change to Figure 49.17

Add a transition out of RX_WAKE into RX_QUIET conditional on energy_detect=FALSE

Cl **49** *SC* **Fig 49-17** *P* **155** *L* # 91
Pillai, Velu Broadcom

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

This state diagram needs changes to handle the proposal on pillai_01_0309.
rx_lpi_active is needed to handle the PCS receive state diagram arc.
R_TYPE(rx_coded)=LI should be R_TYPE(rx_coded) /=LI for the transition from RX_WAKE and RX_WTF. Also some of the transitions need changes as shown in page 5 of pillai_01_0409.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #153

Change the transition condition on the transition from RX_WTF to label B from:

!signal_ok

to:

energy_detect=FALSE

Cl **49** *SC* **Fig 49-13** *P* *L* # 92
Pillai, Velu Broadcom

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

Cl49 BER monitor state diagram (Fig 49-13): When in EEE mode, block_lock is latched in Cl49 Rx lpi fsm. During transitions in and out of Quiet mode, PCS gets some garbage data which will trigger hi_ber. When hi_ber is set, 10G-R link is dropped. To avoid this freeze the BER fsm during low power mode. The proposal is shown in page 6 of pillai_01_0409.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #154

Cl **48** *SC* **Fig 48-9** *P* **138** *L* # 93
Pillai, Velu Broadcom

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

PCS_receive state diagram shown in Fig 48-9 needs changes to avoid asserting non LI during transitioning in and out of quiet mode. Using rx_lpi_active as shown in page 7 of pillai_01_0409 will help to avoid the wrong assertion. RECEIVE_LPI is not needed either.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #142

Cl **48** *SC* **Fig 48-9b** *P* **141** *L* # 94
Pillai, Velu Broadcom

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

RX_ACTIVE and RX_SLEEP needs rx_lpi_active. LPI_fail_timer is not needed in RX_LINK_FAIL state. Please refer to page 8 of pillai_01_0409.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #143, 145

Cl **36** *SC* **Fig 36-7a** *P* **81** *L* # 95
Pillai, Velu Broadcom

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

Without "rx_lpi_active" transition from LPI_K to IDEL_D can happen during transitioning in and out of quiet mode (transition from LPI_K to IDLE_D.
To avoid this AND detect_idle with rx_lpi_active. Please refer to page 9 of pillai_01_0409.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #128, 129 for details.

Cl **36** *SC* **Fig 36-9b** *P* **86** *L* # 96
Pillai, Velu Broadcom

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

PCS LPI transmit state diagram need rx_lpi_active. Please refer to page 10 of pillai_01_0409.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #128, 129 for details.

Cl **46** *SC* **46.3.1.5a** *P* **128** *L* # 97
Pillai, Velu Broadcom

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

- TXC needs to be high during IDLE
- This diagram should show TXC<3:0>, TXD<31:24>, TXD<23:16>, TXD<15:8>, TXD<7:0>.
- Page 127, line 51 is not correct. TXC<3:0> is 0XF during IDLE and LPI.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #137

Explicitly state, in the diagram, that all four lanes are the same

Cl **46** *SC* **46.3.2.4a** *P* **130** *L* # 98
Pillai, Velu Broadcom

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

- RXC needs to be high during IDLE
- This diagram should show RXC<3:0>, RXD<31:24>, RXD<23:16>, RXD<15:8>, RXD<7:0>.
- Line 9 is not correct. RXC<3:0> is 0XF during IDLE and LPI

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #138

Explicitly state, in the diagram, that all four lanes are the same

Cl **36** *SC* **36.2.5.2.9** *P* **86** *L* # 99
Pillai, Velu Broadcom

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

LPI status bits are added 3.1 register. 1000Base-X PCS does not have any definition in Cl45, 3.1 register. If new bits are added then standard has to defined the meaning of rest of the bits that register (Ex: fault)

SuggestedRemedy

Add the 1000Base-X PCS LPI status in different register.

Response *Response Status* **C**

REJECT.

Many of the bits in register 3.1 are already defined to be meaningful for certain PHYs and not others. None of the bits pose any special problems for 1000BASE-X PHYs.

Cl **46** *SC* **Cl46.3.1.5a** *P* **128** *L* # 100
Pillai, Velu Broadcom

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

During Idle TXC<3:0> = 0xF, TXD<31:24>, TXD<23:16>, TXD<15:8>, TXD<7:0> are 0x07 each
During LP Idle TXC<3:0> = 0xF, TXD<31:24>, TXD<23:16>, TXD<15:8>, TXD<7:0> are 0x06 each

SuggestedRemedy

Show data and control for all four lanes

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Duplicate of #97

Cl **46** *SC* **Cl46.3.2.4a** *P* **130** *L* # 101
Pillai, Velu Broadcom

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

During Idle RXC<3:0> = 0xF, RXD<31:24>, RXD<23:16>, RXD<15:8>, RXD<7:0> are 0x07 each
During LP Idle RXC<3:0> = 0xF, RXD<31:24>, RXD<23:16>, RXD<15:8>, RXD<7:0> are 0x06 each

SuggestedRemedy

Show data and control for all four lanes

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Duplicate of #98

Cl **01** *SC* **1.3** *P* **15** *L* **31** # 102
Barrass, Hugh Cisco

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

Status was checked during 802.3-2008 revision.

SuggestedRemedy

Delete editor's note box & subclause heading.

Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4** *P* **15** *L* **39** # 103
Barrass, Hugh Cisco

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

After 4 drafts, it is clear that no commenters think that there are more terms to add.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.5** *P* **16** *L* **3** # 104
Barrass, Hugh Cisco

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

After 4 drafts, it is clear that no commenters think that there are more abbreviations to add.

SuggestedRemedy

Delete editor's note box & the bogus subclause heading.

Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1** *P* **15** *L* **1** # 105
Barrass, Hugh Cisco

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

This header may be useful but it doesn't need to be repeated for every clause - it's a waste of electrons!

SuggestedRemedy

Delete ", Clause 1"

Response *Response Status* **C**

ACCEPT.

Saving electrons is not a good enough reason to make the change.

Cl **01** *SC* **1** *P* **15** *L* **14** # 106
Barrass, Hugh Cisco

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

The editor's note with revision history and comments has note been kept up to date since July 2008. Therefore it is clearly not considered useful by either editors or commenters.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete revision history

See response to comment 244

Cl **14** *SC* **14.4** *P* **25** *L* **3** # 107
Barrass, Hugh Cisco

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

After 4 drafts, it is clear that no commenters think that there are mfurther link segment specifications to make.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **14** *SC* **14.10.4.5.12** *P* **26** *L* **28** # 108
Barrass, Hugh Cisco

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

After 4 drafts, it is clear that no commenters think that any further PICS items are required.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **14** *SC* **14** *P* **17** *L* **1** # 109
Barrass, Hugh Cisco

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

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy

Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**

ACCEPT.

Cl **22** *SC* **22** *P* **27** *L* **3** # 110
Barrass, Hugh Cisco

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

Editor's note is no longer needed.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **22** *SC* **22.7** *P* **35** *L* **4** # 111
Barrass, Hugh Cisco

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

Editor's note is no longer needed.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **22** *SC* **22** *P* **27** *L* **1** # 112
Barrass, Hugh Cisco

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

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy

Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**

ACCEPT.

Cl **24** *SC* **24.2.2.5** *P* **43** *L* **5** # 113
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **24** *SC* **24.8.2.2** *P* **55** *L* **20** # 114
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

also on page 56, line 3

Response *Response Status* **C**
ACCEPT.

Cl **24** *SC* **24** *P* **37** *L* **1** # 115
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **25** *SC* **25.3** *P* **57** *L* **9** # 116
Barrass, Hugh Cisco

Comment Type **ER** *Comment Status* **A**
Editor's note appears to highlight some inconsistencies in the draft.

If these are real - fix them, otherwise the editor's note is incorrect.

In either case - delete the editor's note!

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **25** *SC* **25.4** *P* **59** *L* **34** # 117
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
The editor tries...

It appears that the editor has been successful - hoorah!

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **25** *SC* **25.5.1** *P* **65** *L* **8** # 118
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **25** *SC* **25** *P* **57** *L* **1** # 119

Barrass, Hugh Cisco

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

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy

Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**

ACCEPT.

Cl **28C** *SC* **28C** *P* **256** *L* **8** # 120

Barrass, Hugh Cisco

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

Editor's note is no longer needed.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30** *P* **67** *L* **3** # 121

Barrass, Hugh Cisco

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

The editor's note highlights a deficiency in the draft.

SuggestedRemedy

Add MIB object definitions based on the text in Clause 78 & copying the style of 802.3at MIB definitions.

Delete the editor's note

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the editor's note.

Make changes to Table 30-6 (LLDP capabilities); add two columns titled:
"LLDP EEE local package" and
"LLDP EEE remote package"

Add rows to corresponding to all the LLDP local and remote group objects added by EEE.

The editor will coordinate nomenclature with the editor of 802.3bc (and 802.3at LLDP management).

Cl **30** *SC* **30** *P* **66** *L* **1** # 122

Barrass, Hugh Cisco

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

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy

Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**

ACCEPT.

Cl **35** *SC* **35** *P* **69** *L* **4** # 123
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **35** *SC* **35.5** *P* **73** *L* **48** # 124
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note

Response *Response Status* **C**
ACCEPT.

Cl **35** *SC* **35** *P* **68** *L* **1** # 125
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **36** *SC* **36.2.5.2.8** *P* **86** *L* **39** # 126
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A**
(comment originally from Velu)

Effectively the same as comment #128 from the previous draft. Fig 36-9b LPI receive state diagram.

Make the same changes as were accepted for Clause 49, wake time fault.

SuggestedRemedy
Add new state RX_WTF, counter wake_error_counter and timer rx_wf_timer - both as in Clause 49.

Exit conditions from the new state are the same as RX_WAKE.

Response *Response Status* **C**
ACCEPT.

Cl **36** *SC* **36.2.5.2.8** *P* **86** *L* **20** # 127
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A**
Effectively the same as comment #89 from the previous draft.

Is is really necessary to "de-bounce" signal_detect = FAIL?

The value of signal_detect is communicated from the PMA sublayer to indicate that the PMD detects the presence of a signal AND that the PMA is able to synchronize to that signal. This is unlikely to be tricked by the power-down transient of the link partner transmitter.

SuggestedRemedy
Remove RX_DEACT state and delete the definition of rx_deact_timer.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Make the suggested change and add an arc from RX_WAKE to RX_QUIET when signal_detect=FAIL

Cl **36** *SC* **36.2.5.1.3** *P* **77** *L* **16** # 128
Barrass, Hugh Cisco

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

(comment originally from Velu)

Also, applies to receive state diagram (fig 36-9b)

Reverse the effect of comment #166 from the previous draft :-)

There is a requirement for a variable that has the same definition as rx_lpi_mode used to have.

SuggestedRemedy

Restore the definition of rx_lpi_mode and the control of that variable in the receive state diagram.

Change the variable name to rx_lpi_active; change the 2 states to TRUE (formerly ON) and FALSE(formerly OFF).

Response *Response Status* **C**

ACCEPT.

Also see comments #95 & 96

Cl **36** *SC* **36.2.5.2.2** *P* **81** *L* **5** # 129
Barrass, Hugh Cisco

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

(comment originally from Velu)

fig 36-7a PCS receive state diagram

The state machine needs to stay in state LPIDLE_MODE during LP idle.

SuggestedRemedy

Change all 3 exit conditions from state LPI_K to include "* (rx_lpi_active = FALSE)"

Response *Response Status* **C**

ACCEPT.

Also see comments # 95 and 96

Cl **36** *SC* **36** *P* **76** *L* **4** # 130
Barrass, Hugh Cisco

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

Editor's note is no longer needed.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **36** *SC* **36.7** *P* **87** *L* **48** # 131
Barrass, Hugh Cisco

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

Editor's note is no longer needed.

SuggestedRemedy

Delete the editor's note

Response *Response Status* **C**

ACCEPT.

Cl **36** *SC* **36** *P* **75** *L* **1** # 132
Barrass, Hugh Cisco

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

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy

Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40** *P* **89** *L* **1** # 133
Barrass, Hugh Cisco

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

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy

Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45** *P* **117** *L* **3** # 134
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **45** *SC* **45.5** *P* **124** *L* **4** # 135
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note

Response *Response Status* **C**
ACCEPT.

Cl **45** *SC* **45** *P* **116** *L* **1** # 136
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **46** *SC* **46.3.1.5a** *P* **128** *L* **12** # 137
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A**
(comment originally from Velu)

In fig 46-7a TXC should be shown HIGH during IDLE after wake.

Also, make it clear in the diagram and the text that TXC & TXD are the same for all 4 lanes.

SuggestedRemedy
As per comment.

Response *Response Status* **C**
ACCEPT.

Cl **46** *SC* **46.3.2.4a** *P* **130** *L* **23** # 138
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A**
(comment originally from Velu)

In fig 46-8a RXC should be shown HIGH during IDLE after wake.

Also, make it clear in the diagram and the text that RXC & RXD are the same for all 4 lanes.

SuggestedRemedy
As per comment.

Response *Response Status* **C**
ACCEPT.

Cl **46** *SC* **46** *P* **126** *L* **4** # 139
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **46** *SC* **46.5** *P* **131** *L* **4** # 140
Barrass, Hugh Cisco

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

Editor's note is no longer needed.

SuggestedRemedy

Delete the editor's note

Response *Response Status* **C**

ACCEPT.

Cl **46** *SC* **46** *P* **125** *L* **1** # 141
Barrass, Hugh Cisco

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

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy

Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**

ACCEPT.

Cl **48** *SC* **48.2.6.2** *P* **138** *L* **21** # 142
Barrass, Hugh Cisco

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

(comment originally from Velu)

fig 48-9 PCS receive state diagram

The state machine needs to stay in state LPIDLE_MODE during LP idle.

SuggestedRemedy

Change exit condition from state LPIDLE_MODE to (rx_lpi_active = FALSE) * AUDI

Also, delete state RECEIVE_LPI and take exit path from LPIDLE_MODE directly to RECEIVE.

Response *Response Status* **C**

ACCEPT.

Cl **48** *SC* **48.2.6.1.3** *P* **135** *L* **26** # 143
Barrass, Hugh Cisco

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

(comment originally from Velu)

Also, applies to receive state diagram (fig 48-9b)

Reverse the effect of comment #167 from the previous draft :-)

There is a requirement for a variable that has the same definition as rx_lpi_mode used to have.

SuggestedRemedy

Restore the definition of rx_lpi_mode and the control of that variable in the receive state diagram.

Change the variable name to rx_lpi_active; change the 2 states to TRUE (formerly ON) and FALSE(formerly OFF).

Response *Response Status* **C**

ACCEPT.

Cl **48** *SC* **48.2.6.2.5** *P* **141** *L* **19** # 144
Barrass, Hugh Cisco

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

Effectively the same as comment #89 from the previous draft.

Is is really necessary to "de-bounce" signal_detect = FAIL?

The value of signal_detect is communicated from the PMA sublayer to indicate that the PMD detects the presence of a signal AND that the PMA is able to synchronize to that signal. This is unlikely to be tricked by the power-down transient of the link partner transmitter.

SuggestedRemedy

Remove RX_DEACT state and delete the definition of rx_deact_timer.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Make the suggested change and add an arc from RX_WAKE to RX_QUIET when signal_detect=FAIL

Cl **48** *SC* **48.2.6.2.5** *P* **141** *L* **40** # 145
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A**
(comment originally from Velu)

Effectively the same as comment #128 from the previous draft. Fig 48-9b LPI receive state diagram.

Make the same changes as were accepted for Clause 49, wake time fault.

SuggestedRemedy
Add new state RX_WTF, counter wake_error_counter and timer rx_wf_timer - both as in Clause 49.

Exit conditions from the new state are the same as RX_WAKE.

Response *Response Status* **C**
ACCEPT.

Cl **48** *SC* **48** *P* **131** *L* **30** # 146
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **48** *SC* **48.7** *P* **143** *L* **5** # 147
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note

Response *Response Status* **C**
ACCEPT.

Cl **48** *SC* **48** *P* **132** *L* **1** # 148
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **49** *SC* **49.2.13.3** *P* **153** *L* **5** # 149
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A**
(comment originally from Velu)

receive state diagram (fig 49-15)

In state RX_LI, rx_raw should be fixed to LI so that garbage is suppressed during wake-up.

SuggestedRemedy
Change "DECODE(rx_coded)" to "/LI/"

Response *Response Status* **C**
ACCEPT.

Cl **49** *SC* **49.2.13.3** *P* **153** *L* **5** # 150
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A**
(comment originally from Velu)

receive state diagram (fig 49-15)

State machine needs to stay in state RX_LI while rx_lpi_active is true.

SuggestedRemedy
For the 2 exit conditions, change "signal_ok" to "rx_lpi_active = FALSE."

Delete the loop around transition (it is redundant anyway).

Response *Response Status* **C**
ACCEPT.

Cl **49** *SC* **49.2.13.3** *P* **153** *L* **7** # 151

Barrass, Hugh Cisco

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

(comment originally from Velu)

receive state diagram (fig 49-15)

If an /LI/ code is received during a non-IPG state then an error must be flagged.

SuggestedRemedy

Change exit condition from RX_INIT state from "R_TYPE(rx_coded) = (E + D + T)" to "R_TYPE(rx_coded) = (E + D + T+ LI)"

Change exit condition from RX_D state from "R_TYPE(rx_coded) = (E + C + S)" to "R_TYPE(rx_coded) = (E + C + S + LI)"

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.2.13.3** *P* **153** *L* **20** # 152

Barrass, Hugh Cisco

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

(probably an artifact of FrameMaker)

receive state diagram (fig 49-15)

Exit condition from state RX_C (towards flag "E") is missing its end.

SuggestedRemedy

Change exit condition to "R_TYPE(rx_coded) = LI"

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.2.13.2.2** *P* **150** *L* **2** # 153

Barrass, Hugh Cisco

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

(comment originally from Velu)

Also, applies to receive state diagram (fig 49-15)

Reverse the effect of comment #81 from the previous draft :-)

There is a requirement for a variable that has the same definition as rx_lpi_mode used to have.

SuggestedRemedy

Restore the definition of rx_lpi_mode and the control of that variable in the receive state diagram.

Change the variable name to rx_lpi_active; change the 2 states to TRUE (formerly ON) and FALSE(formerly OFF).

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.2.9** *P* **147** *L* **24** # 154

Barrass, Hugh Cisco

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

(comment originally from Velu)

The BER state machine (Fig 49-13) needs to be changed so that high BER is not reported during the shutdown & restart phases. BER should only be monitored when the PCS is locked.

SuggestedRemedy

Change fig 49-13.

Change "!block_lock" to "!rx_block_lock"

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.3** *P* **158** *L* **4** # 155
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note

Response *Response Status* **C**
ACCEPT.

Cl **49** *SC* **49** *P* **144** *L* **1** # 156
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **51** *SC* **51.10** *P* **160** *L* **4** # 157
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note

Response *Response Status* **C**
ACCEPT.

Cl **51** *SC* **51** *P* **159** *L* **1** # 158
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **55** *SC* **55.3.4a.1** *P* **172** *L* **31** # 159
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note says convert to a active reference.

SuggestedRemedy
do it, then delete the editor's note.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

The reference cannot be converted to an active reference in this draft because the referred to subclause is not in the draft.

The color of the text has been changed to blue and the editor's note deleted.

Cl **55** *SC* **55** *P* **161** *L* **1** # 160
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **69** *SC* **69** *P* **198** *L* **1** # 161
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **70** *SC* **70** *P* **200** *L* **1** # 162
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **71** *SC* **71** *P* **208** *L* **1** # 163
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **72** *SC* **72** *P* **217** *L* **1** # 164
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **73A** *SC* **73A** *P* **258** *L* **8** # 165
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **74** *SC* **74** *P* **229** *L* **1** # 166
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78** *P* **237** *L* **3** # 167
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.4** *P* **245** *L* **12** # 168
Barrass, Hugh Cisco

Comment Type **E** *Comment Status* **A**
Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Delete last two sentence. Add the following sentence "Material related to 802.3bc to be converted to editorial instructions against Clause 79 when 802.3bc is stable".

If decision is to do that in D1.3, no need for additional section and modified Editor's note to go into C79 edits.

Cl **78** *SC* **78.4** *P* **245** *L* **26** # 169

Barrass, Hugh Cisco

Comment Type **ER** *Comment Status* **A**

Editor's note indicates that cross reference table will be added.

SuggestedRemedy

Add the cross reference table, delete the editor's note box.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Update the cross reference to Clause 30 (on page 247, line 4 and in other places in the draft where these crossreference as listed as 30.XX.YY) and remove the editors note on page 245 line 26.

Cl **78** *SC* **78.4.1** *P* **245** *L* **35** # 170

Barrass, Hugh Cisco

Comment Type **ER** *Comment Status* **A**

Editor's note indicates that this section will be moved to Clause 79.

SuggestedRemedy

Add Clause 79 into this document.

Move the TLV definition from 78.4.1 to 79.6a, change 78.4.1 to resemble 33.6.1 from .3at.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Agreed. Timing of move to be discussed in Task Force after proposed work plan is presented in the L2 ad-hoc report. Goal is to do the move when 802.3bc is stable.

Cl **78** *SC* **78.4.3** *P* **247** *L* **26** # 171

Barrass, Hugh Cisco

Comment Type **ER** *Comment Status* **A**

The editor's note indicates some changes that might be made.

If the changes are made then the editor's note is no longer needed, if not it is moot.

SuggestedRemedy

In either case, delete the editor's note.

Response *Response Status* **C**

ACCEPT.

See motion #2

Cl **78** *SC* **78.4.4.5** *P* **250** *L* **3** # 172

Barrass, Hugh Cisco

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

Editor's note is no longer needed.

SuggestedRemedy

Delete the editor's note box.

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.5** *P* **255** *L* **9** # 173

Barrass, Hugh Cisco

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

As far as this commenter understands, the conclusion of the wake time shrinkage concluded that the Tw_sys_rx for backplane PHYs should be the same as similar BASE-T PHYs.

SuggestedRemedy

Change the backplane TBD rows as follows:

1000BASE-KX: 12.76, 11, 0, 11, 1.76
10GBASE-KX4: 11.88, 9, 0, 9, 2.88
10GBASE-KR: 14.88, 12, 0, 12, 2.88

Add a new line for 10GBASE-KR (with scrambler_reset_enable = TRUE - use a footnote)

10GBASE-KR: 16.88, 14, 0, 14, 2.88

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Wake time shrinkage adhoc begat updated numbers.

Use the numbers in pillai_02_0409.pdf

Cl **14** *SC* **14.3.1.2.1** *P* **23** *L* **27** # 174

Grimwood, Michael Broadcom

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

For 10BASE-Te, TP_IDL and data should be tested against the same twisted-pair model. This means that the voltage template requirements for transmission of TP_IDL should be met with the 10BASE-Te twisted-pair model.

SuggestedRemedy

Change:

".with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8."

To:

".with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te."

Response *Response Status* **C**

ACCEPT.

Cl **14** *SC* **14.3.1.2.1** *P* **24** *L* **3** # 175

Grimwood, Michael Broadcom

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

For 10BASE-Te, the link test pulse and data should be tested against the same twisted-pair model. This means that the voltage template requirements for transmission of the link test pulse should be met with the 10BASE-Te twisted-pair model.

SuggestedRemedy

".with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8."

To:

".with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change on line 3 from ".with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8."

To:

".with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te."

And on line 25 from "with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8."

To:

"with the load connected through the twisted-pair model as defined in Figure 14-7 and Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te."

Cl **22** *SC* **22.2.2.2** *P* **29** *L* **47** # 176

Grimwood, Michael Broadcom

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

In figure 24-11a, the transition from the state IDENTIFY JK to the state START OF STREAM J is initially triggered by the sequence 11111 (/I/) followed by 11000 (/J/). This can be the same initial sequence that leads to a transition to the state START_RX_SLEEP (...111 11 000..). However, before the actual transition is complete, implementations may extend RX_CLK as described in the last paragraph of page 15 of 802.3-2005_section2.pdf. In the event that RX_CLK is extended as triggered by the bit sequence 11111 11000, the specification should be modified to allow this extension not only for the IDENTIFY JK to START of STREAM J state but also for the IDENTIFY JK to the START_RX_SLEEP state since the bit sequences that cause these transitions are initially indistinguishable.

SuggestedRemedy

On page 15 of 802.3-2005_section2.pdf in Section 22.2.2.2 (pertaining to the RX_CLK), append the following sentence to the last paragraph:

"For low power operation, when the receiver transitions from the IDENTIFY JK state to the START_RX_SLEEP state at the transition from the IDLE code-group /I/ to the SLEEP code-group /P/, the PHY may extend a cycle of RX_CLK by holding it in either the high or low condition for an interval that shall not exceed twice the nominal clock period."

Response *Response Status* **C**

ACCEPT.

Note that this brings 22.2.2.2 into the draft.

Cl **24** *SC* **24.2.3.4** *P* **45** *L* **24** # 177

Grimwood, Michael Broadcom

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

With the current allowable range of lpi_rx_ti_timer and considering the PCS receive state diagram of Figure 24-11b, it is possible to get into an endless loop due to the following sequence:

1. Erroneously enter RX_SLEEP (due to bit errors or misalignment)
2. Receive a minimum IPG (0.96 usec) of IDLE causing a transition to WAIT_IDLE.
3. Receive data before lpi_rx_ti_timer is done causing a transition back to RX_SLEEP.
4. Repeat 2. and 3.

SuggestedRemedy

Modify lpi_rx_ti_timer such that its maximum value is less than the minimum IPG.

Change:

"The timer shall have a period between 1.0 us to 1.2 us."

To:

"The timer shall have a period between 0.8 us to 0.9 us."

Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.2.5** *P* **111** *L* **47** # 178

Grimwood, Michael Broadcom

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

Clarify that MASTER clock jitter specifications be met in low-power mode.

SuggestedRemedy

In section 40.6.1.2.5 change:

When in the normal mode of operation as the MASTER, the peak-to-peak value of the MASTER TX_TCLK jitter relative to an unjittered reference shall be less than 1.4 ns.

To:

When in the normal or low power modes of operation as the MASTER, the peak-to-peak value of the MASTER TX_TCLK jitter relative to an unjittered reference shall be less than 1.4 ns.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert paragraph following the last paragraph of 40.6.1.2.5:
"The unfiltered jitter requirements shall also be satisfied during the low power mode of operation, with the exception that clock edges corresponding to the WAIT_SILENT, QUIET, WAKE, and WAKE_SILENT states are not considered in the measurement. The PHY may turn off TX_TCLK during these states. For a MASTER PHY operating in the low power mode, the unjittered reference clock shall be continuous."

Add corresponding PICS.

_____Previous discussion is listed below---

Motion to accept the suggested remedy
Moved: M. Grimwood
Second: V. Pillai

Yes: 5
No: 4
Abstain: 5

Motion fails.

Motion to reject the comment:
Moved: S. Kasturia
Second: J. Chou

Yes: 6
No:3
Abstain: 4

Motion fails:

Straw poll:
Reject the suggested remedy: 2
Accept the suggested remedy: 7

Cl **45** *SC* **45.2.3.9a** *P* **120** *L* **46** # 179

Grimwood, Michael Broadcom

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

Introduce capabilities and advertisement bits related to 10BASE-Te to allow management selection of the transmitter mode when devices support both 10BASE-T and 10BASE-Te.

SuggestedRemedy

Introduce 10BASE-Te capability bit to 3.20.0 and 10BASE-Te advertisement bits to 7.60.0 and 7.61.0.

A presentation will be submitted for the April/May EEE interim detailing the rationale and rules for resolving the mode.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

10BASE-T and 10BASE-Te are in all respects compatible and interoperable on supported media. The media is not part of negotiation or management, therefore advertisement would be redundant.

Add a note:

NOTE - It is expected that new 10 Mb/s devices for twisted pair media will not support both 10BASE-T and 10BASE-Te.

Also change item e (line 52 on page 25) to:
10BASE-T or 10BASE-Te support.

Cl **40** *SC* **40.6.1.2.7** *P* **112** *L* **36** # 180

Grimwood, Michael Broadcom

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

The transmitter wake signal specification has several elements that are either unclear or undefined. Why is there not a single threshold? (For example, If the wake signal is at 90% of nominal idle level 600 nsec after the beginning of Wake, this is outside of the two threshold values so does this mean that the signal is non-compliant?). Also, symbols ratio is not defined. Why is an additional 10% tolerance applied?

This comment suggest simplifying this specification to make it clear.

SuggestedRemedy

Change:

The wake signal shall be between 50 and 75% of the nominal idle levels with a symbols ratio within 10% of a nominal idle signal. These requirements shall be met within 700 ns following entry into the WAKE state.

To:

The wake signal shall be at least 75% of the analog signal levels corresponding to a nominal PAM3 {+2, 0, -2} idle signal. These requirements shall be met within 700 ns following entry into the WAKE state.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to #29.

Cl **55** *SC* **55.3.2.3** *P* **171** *L* **2** # 181

Grimwood, Michael Broadcom

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

Clarify that the LDPC syndrome and CRC8 errors are not monitored during LPI. This clarification is needed for consistency with Figure 55-16 since otherwise undesired transitions to RX_INIT could occur during LPI.

SuggestedRemedy

In 802.3an-2006, page 92, add the following sentence after the fourth paragraph (ending with ".on the XGMII."):

"LDPC frame errors are not monitored during low-power operation."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to 182.

We will need to make a change to the state diagram for this change.

Restart the LFER monitoring state machine when you have recovered from sleep and resumed normal operation (when you leave the Rx_W state in the PCS 64B/65B receive state diagram).

Cl **55** *SC* **55.3.5.4** *P* **178** *L* **6** # 182
Grimwood, Michael Broadcom

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

Clarify that LFER Monitor function is not performed during LPI. This clarification is needed for consistency with Figure 55-16 since otherwise undesired transitions to RX_INIT could occur during LPI.

SuggestedRemedy

In 802.3an-2006, page 98, in section 55.3.5.4 change the last paragraph from:

"The PCS shall perform the functions of LFER Monitor, Transmit, and Receive as specified in these state machines."

To:

"The PCS shall perform the functions of LFER Monitor, Transmit, and Receive as specified in these state machines. The PCS shall not perform the LFER Monitor function during low-power operation from the time that the PCS 64B/65B Receiver detects a sleep block until the state RX_W is exited."

Response *Response Status* **C**

ACCEPT.

See also comment 181

Cl **55** *SC* **55.4.2.2** *P* **185** *L* **4** # 183
Grimwood, Michael Broadcom

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

Specify that the PMA transmit function continuously sources TX_TCLK to explicitly require that jitter and clock drift specifications be met during low-power operation.

SuggestedRemedy

In section 55.4.2.2 1st sentence, 2nd paragraph change:

When the PMA_CONFIG.indication parameter config is MASTER, the PMA Transmit function shall source TX_TCLK from a local clock source while meeting the transmit jitter requirements of 55.5.3.3.

To:

When the PMA_CONFIG.indication parameter config is MASTER, for both normal and lower-power operation, the PMA Transmit function shall continuously source TX_TCLK from a local clock source while meeting the transmit jitter requirements of 55.5.3.3.

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.4** *P* **239** *L* **4** # 184
Grimwood, Michael Broadcom

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

Smaller font was used for the following:

"These services are described in."

SuggestedRemedy

Make font size consistent.

Response *Response Status* **C**

ACCEPT.

Source seems fine. May be an artifact of converstion to PDF

Cl **78** *SC* **78.1.3.1** *P* **238** *L* **26** # 185
Grimwood, Michael Broadcom

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

Make diagram label match acronym "PLS".

SuggestedRemedy

In diagram, change "Physical Signaling" to "Physical Layer Signaling".

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.4** *P* **239** *L* **6** # 186
Grimwood, Michael Broadcom

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

Typo.

SuggestedRemedy

"prmiavtes" should be "primitives"

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.4.1.2** *P* **239** *L* **26** # 187
Grimwood, Michael Broadcom

Comment Type **E** *Comment Status* **A**
Consistent spelling of signaling vs. signalling

SuggestedRemedy
In Clause 78, change all four occurrences of "signalling" to "signaling".

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.5.2** *P* **241** *L* **20** # 188
Grimwood, Michael Broadcom

Comment Type **E** *Comment Status* **A**
Inconsistent font used for the text, "normal interframe".

SuggestedRemedy
Make font consistent. Exact same issue in 78.1.5.3.1, p 241, line 51 and 78.1.5.3.2, p 242, line 28.

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.2.3** *P* **244** *L* **9** # 189
Grimwood, Michael Broadcom

Comment Type **E** *Comment Status* **A**
Word usage.

SuggestedRemedy
Change "can be" to "is".

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.5** *P* **240** *L* **13** # 190
Grimwood, Michael Broadcom

Comment Type **E** *Comment Status* **A**
Typo.

SuggestedRemedy
Change "dependant" to "dependent".

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.5.1** *P* **241** *L* **12** # 191
Grimwood, Michael Broadcom

Comment Type **E** *Comment Status* **A**
Typo, punctuation.

SuggestedRemedy
Change "PHY dependant" to "PHY-dependent"

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.3** *P* **244** *L* **41** # 192
Grimwood, Michael Broadcom

Comment Type **T** *Comment Status* **A**
Impose a minimum time between completing link-up and when the LPI Client can initially assert LPI in order to ensure a high-quality, stable link exists prior to entering LPI.

SuggestedRemedy
If EEE is supported by both link partners for the negotiated PHY type then the EEE function may be used independently in either direction.

To:

If EEE is supported by both link partners for the negotiated PHY type then the EEE function may be used independently in either direction with the constraint that the Low Power Idle Client shall not set the LPI_REQUEST parameter to ASSERT until at least 5 msec after link_status=OK.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

See response to comment #36 . No change required in Clause 78.

Cl **73** *SC* **Annex73** *P* **258** *L* # 193
Pillai, Velu Broadcom

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

Annex 73A says EEE technology messages will follow the transmission of this page with at least two unformatted next pages that contain
information defined in 45.2.7.13a which amounts to 144 bits sent when there are only 6 bits of information defined.

The 6 bits of information can be transferred as part of the message page and thus only require 48 bits of transmission

SuggestedRemedy

Either Add table like in Annex 28C for clarity or put more text to explain the MP10 bit information. pillai_01_0409 that will be posted during the May interim will also address the remedy.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Only 1 unformatted next page is required - change text to read "at least one unformatted next page"

Table 73A-1 is identical in form and function to Table 28C-1.

73.7.7.1 defines the unformatted next page format.

Cl **78** *SC* **78.1.5** *P* **240** *L* **13** # 194
Parnaby, Gavin Solarflare Communica

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

dependant should be dependent

SuggestedRemedy

as comment

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.5.1** *P* **240** *L* **53** # 195
Parnaby, Gavin Solarflare Communica

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

capitalise 'the' to 'The'

SuggestedRemedy

as comment

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.5.1** *P* **241** *L* **6** # 196
Parnaby, Gavin Solarflare Communica

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

font appears to be incorrect

also happens on line 20 same page, line 51 same page and line 28 next page

SuggestedRemedy

use the same font as elsewhere

Response *Response Status* **C**

ACCEPT.

Source text seems fine. May be a problem in the Frame to PDF conversion.

Cl **78** *SC* **78.1.5.3** *P* **241** *L* **31** # 197
Parnaby, Gavin Solarflare Communica

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

and should be an

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.5.3.2** *P* **242** *L* **22** # 198
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
delete 'some of the'

SuggestedRemedy

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Delete "of the"

Cl **78** *SC* **78.1.6** *P* **242** *L* **33** # 199
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
EEE defines Low Power Idle mode ...

SuggestedRemedy
should be

EEE defines a Low Power Idle mode...

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.2.3** *P* **243** *L* **44** # 200
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
add 'the' between 'between' and 'two'

same for line 49

SuggestedRemedy

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Text was changed. See response to comment #215

Cl **78** *SC* **78.2.3** *P* **244** *L* **2** # 201
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
add 'the' before 'reception of an IDLE signal' and add 'the' before 'first data codewords'

SuggestedRemedy

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.2.3** *P* **244** *L* **9** # 202
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
can does not seem to be the right word here

SuggestedRemedy
should or must would be better words.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

See response to comment #189

Cl **78** *SC* **78.4.1.2** *P* **246** *L* **38** # 203
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
Font is incorrect

SuggestedRemedy
Correct font

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.4.1.3** *P* **246** *L* **49** # 204
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
partner should be device

SuggestedRemedy
replace partner with device on lines 50, 51 and 52

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

The correct term is "link partner". Agreed that shorthand of "partner" maybe confusing. Use "remote link partner" throughout

Cl **78** *SC* **78.4.4.2** *P* **248** *L* **5** # 205
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
than should be that

SuggestedRemedy

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.5** *P* **254** *L* **30** # 206
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
Remove a .

SuggestedRemedy

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.5** *P* **254** *L* **35** # 207
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
typo 'paraneters'; also add 'the' before systems designer, replace while with 'when', change PHY's to PHYs (also on line 38 and 39)

SuggestedRemedy

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Change the paragraph to read:
"Table 78-5 summarizes critical timing parameters for supported PHYs. This should assist the systems designer in understanding the effect of Low Power Idle mode on the overall operation of the PHY."

Edit the paragraph below that on 1000BASE-T to read:
"Case-1 of the 1000BASE-T PHY applies to PHYs in the Master mode. Case-2 of the 1000BASE-T PHY applies to PHYs in the Slave mode."

Also add a similar paragraph describing the two cases for 10GBASE-KR - one case for PHYs with FEC and the second for PHYs without FEC.

Edit the paragraph below on 10GBASE-T to read:
"Case-1 of the 10GBASE-T PHY applies when the PHY is requested to transmit the Wake signal before transmission of the Sleep signal to the Link Partner is completed. Case-2 of the 10GBASE-T PHY applies when the PHY is requested to transmit the Wake signal after transmission of the Sleep signal to the Link Partner has been completed."

Cl **48** *SC* **48.2.6.1.3** *P* **135** *L* **38** # 208
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **R**
delete is in 'is set to FALSE'

SuggestedRemedy

Response *Response Status* **C**
REJECT.

The sentence would make no sense as suggested.

Cl **48** *SC* **48.2.3** *P* **132** *L* **45** # 209
Parnaby, Gavin Solarflare Communica

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

'The ability to transmit or receive Low Power Idle is an option for certain PHYs to support Energy Efficient Ethernet' isn't very clear. The ability to transmit or receive LPI is a requirement for PHYs that support EEE.

SuggestedRemedy

Change text to something like

'Certain PHYs may support Energy Efficient Ethernet. PHYs that support Energy Efficient Ethernet are able to transmit and receive Low Power Idle characters.'

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.2.21** *P* **170** *L* **21** # 210
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **R**

PHY should be PHYs

SuggestedRemedy

Response *Response Status* **C**

REJECT.

Actually the sentence is fine.

Cl **55** *SC* **55.4.2.2** *P* **185** *L* **13** # 211
Parnaby, Gavin Solarflare Communica

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

Change 'is able to generate the alert signal ' to 'generates the alert alert signal as'

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.2** *P* **237** *L* **33** # 212
Parnaby, Gavin Solarflare Communica

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

Why are objectives included?

SuggestedRemedy

Delete objectives

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The following response was approved unanimously by the task force

Delete the heading 78.1.1 (line 8)

Delete section 78.1.2 and renumber subsequent sections if necessary.

Put in the following text after the paragraph on line 13:

Energy Efficient Ethernet also provides a protocol to coordinate transitions to or from a lower level of power consumption and does this without changing the link status and without dropping or corrupting frames. The transition time to and from the lower level of power consumption is kept small enough to be transparent to upper layer protocols and applications.

Cl **78** *SC* **78.1.5.3.1** *P* **241** *L* **36** # 213
Parnaby, Gavin Solarflare Communica

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

100BASE-T should be 100BASE-TX.

There are descriptions of 100BASE-TX, 1000BASE-T and 10GBASE-T EEE modes but nothing about backplane operation.

SuggestedRemedy

Correct 100BASE-T.

Add description of operation of the backplane EEE modes here (KX/KR/KX4)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

100BASE-T will be changed to 100BASE-TX.

Editor will add description of operation of the backplane EEE modes here (KX/KR/KX4)

Cl **78** *SC* **78.2.1** *P* **243** *L* **5** # 214
Parnaby, Gavin Solarflare Communica

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

Does it make sense to define states without any state diagram or normative requirements?

Do we need to define these states? They overlap with states defined in individual clauses. In my opinion this text confuses things rather than making this clearer.

SuggestedRemedy

Delete these state descriptions.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Make changes as noted in law_1_04_09.pdf

Also make changes in 74 to replace with text the state names that are being deleted in Clause 78

Cl **78** *SC* **78.2.3** *P* **243** *L* **42** # 215
Parnaby, Gavin Solarflare Communica

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

The propagation delay of a start of shell delimiter

(lines 42 and 43)

SuggestedRemedy

Replace with 'The propagation delay between the xxMII and the MDI'

Response *Response Status* **C**

ACCEPT.

Text was changed, see response to #214

Cl **78** *SC* **78.3** *P* **244** *L* **37** # 216
Parnaby, Gavin Solarflare Communica

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

the text says that Auto-Negotiation is performed upon detection of a PHY error.

This is misleading. Auto-Negotiation is performed when the link drops.

SuggestedRemedy

Reeplace PHY error with link failure.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"upon detection of a PHY error" will be replaced by "due to link failure"

Cl **73** *SC* **78.1.1** *P* **237** *L* **30** # 217
Parnaby, Gavin Solarflare Communica

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

EEE also specifies means

SuggestedRemedy

should be

EEE also specifies a means

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.1** *P* **237** *L* **24** # 218
Parnaby, Gavin Solarflare Communica

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

...EEE defines 10 Mb/s PHY ...

SuggestedRemedy

should be EEE defines a 10 Mb/s PHY ...

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.1.4** *P* **239** *L* **6** # 219
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
prmiavtes

SuggestedRemedy
primitives

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.4** *P* **238** *L* **3** # 220
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
font is incorrect

SuggestedRemedy
use the same font as elsewhere

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.4.2.2** *P* **239** *L* **50** # 221
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
signaling/signalling are both used

SuggestedRemedy
signaling is the american spelling

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.5** *P* **240** *L* **42** # 222
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
and should be an

SuggestedRemedy
as comment

Response *Response Status* **C**
ACCEPT.

Cl **78** *SC* **78.1.3.2** *P* **238** *L* **51** # 223
Parnaby, Gavin Solarflare Communica

Comment Type **E** *Comment Status* **A**
decided should be decide

SuggestedRemedy
change to decide

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Change "decided" to decide and adjust sentence to be gramatically correct

Cl **22** *SC* **22.2** *P* **30** *L* **40** # 224
GUPTA, SUJAY Infosys Technologies

Comment Type **E** *Comment Status* **A**
The MAC should wait for the resolved time before asserting out of LPI.
So changing;
The MAC device should not assert TX_EN for valid transmit data until after the wake up time
specified for the PHY.

SuggestedRemedy
The MAC device should not assert TX_EN for valid transmit data until after the resolved wake up time
specified for the PHY.

Response *Response Status* **C**
ACCEPT.

Cl **24** *SC* **24.3 Figure 24-11b** *P* **49** *L* **26** # 225

GUPTA, SUJAY Infosys Technologies

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

RX_WAKE->RX_QUIET on condition sig_status=OFF, Need to start the lpi_rx_tq timer again

SuggestedRemedy

Response *Response Status* **C**

REJECT.

The transition from RX_WAKE to RX_QUIET is added to eliminate an erroneous glitch condition during Quiet state when wake-up energy is too short to decode any valid symbol.

The quiet timer should not be restarted under such circumstance. That's why state START_RX_QUIET is introduced.

Cl **45** *SC* **45.2** *P* **120** *L* **11** # 226

GUPTA, SUJAY Infosys Technologies

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

Instead of mentioning state transition is undefined, it can be made dependent on the latch register status.
Applies to the recv register as well.

SuggestedRemedy

The behavior if read is reliable only if the Transmit low power idle received(45.2.3.2.1a) latch register indicates the same state.

Response *Response Status* **C**

REJECT.

The proposed response does not work in all cases - for example when the PHY has come out of LPI and the indication bit reads 0 whereas the latched bit stays 1. Even if it did work, it doesn't give any more information than stating that the behavior is undefined if read during a state transition (unreliable = undefined).

Cl **45** *SC* **45.2** *P* **121** *L* **21** # 227

GUPTA, SUJAY Infosys Technologies

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

Keep a room for mentioning the error counter size.(can be changed later)

SuggestedRemedy

This counter is of size 4bytes.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "This counter shall be reset..." to "This 16 bit counter shall be reset..."

Cl **22** *SC* **22.7a.2.2** *P* **34** *L* **3035** # 228

GUPTA, SUJAY Infosys Technologies

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

Suggesting timer name change;

SuggestedRemedy

Call li_timer -> lp_intimer
and tw_timer -> lp_outtimer, the term tw is overloaded.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Li_timer is deleted by #26.

tw_timer is an appropriate name for the function.

Cl **22** *SC* **22.7** *P* **34** *L* **7** # 229

GUPTA, SUJAY Infosys Technologies

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

Need a figure for logical location of the LPI SM, which layer it interfaces. Can be mentioned in figure 22-20a, page 33.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

There is no need for a new figure, however it needs to be stated explicitly in the text describing Fig 22-20a how the LPI transmit state machine is involved.

At the end of the second paragraph in 22.7a (p.33, l.44) add the following sentence:

"The timing of PLS_CARRIER.indication when used for the LPI function is controlled by the LPI transmit state machine."

Cl **24** *SC* **24.3** *P* **51** *L* **6** # 230

GUPTA, SUJAY Infosys Technologies

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

It should be "PMA_LPILINKFAIL.request" instead of PMA_LPILINK.request primitive.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **14** *SC* **14.1** *P* **19** *L* **23** # 231

GUPTA, SUJAY Infosys Technologies

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

The section talks about MAU, so the keyword maybe removed as it is understood.

SuggestedRemedy

j) Provides for operation with reduced transmit amplitude for a type 10BASE-Te (optional).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change (i) to:

i) Provides for operation with reduced transmit amplitude for type 10BASE-Te (optional).

Cl **22** *SC* **22.2** *P* **29** *L* **12** # 232

GUPTA, SUJAY Infosys Technologies

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

In Carrier_Status is dependent independently on the basic MII CRS plus our new addition the LPI SM. Recommending to change the language clause.

The CARRIER_STATUS parameter can take one of two values: CARRIER_ON or CARRIER_OFF. The
values CARRIER_ON and CARRIER_OFF are derived from the MII signal CRS and from the transmit LPI
state machine.

SuggestedRemedy

The CARRIER_STATUS parameter can take one of two values: CARRIER_ON or CARRIER_OFF. The
values CARRIER_ON and CARRIER_OFF can be derived from the MII signal CRS and also from the transmit LPI
state machine.

Response *Response Status* **C**

ACCEPT.

Cl **78** *SC* **78.2** *P* **244** *L* **22** # 243

Bennett, Michael LBNL

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

The values in Table 24-2 do not match the values in table 78-2

SuggestedRemedy

according to slide 12 in chou_02_0708.pdf, which was adopted as a baseline, the values in 78-2 are correct. Make the tables consistent

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

It is true that the value between Table 24-2 and Table 78-2 are inconsistent.
Based on the final resolution of comment #62 of draft 1.2.1, There is a statement:
" Change the default value of lpi_tx_ts_timer, lpi_rx_ts_timer, and lpi_tx_tr_timer to 200us - 220us."

Therefore, Table 78-2 need to be updated with the timer value according to the following changes:
Ts 200 us (min) 220 us (max)
Tq 20,000 us (min) 22,000 us (max)
Tr 200 us (min) 220 us (max)

Cl **00** *SC* **0** *P* *L* # 244
Diab, Wael Broadcom

Comment Type **E** *Comment Status* **A**
Revision history is inconsistant and inaccurate across draft

SuggestedRemedy
Suggest having consistancy or deleting alltogether

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Delete revision history.

Cl **01** *SC* **1.5** *P* **16** *L* **8** # 245
Diab, Wael Broadcom

Comment Type **E** *Comment Status* **A**
There seems to be a heading issue. Section 1.1 appears under 1.5

SuggestedRemedy
Delete 1.1

Response *Response Status* **C**
ACCEPT.

Cl **01** *SC* **1.5** *P* **16** *L* **12** # 246
Diab, Wael Broadcom

Comment Type **E** *Comment Status* **A**
This section is intended to be an expantion of abbreviations, not an explanation

SuggestedRemedy
Delte the words "label to indicate" and the " "

Response *Response Status* **C**
ACCEPT.

Cl **22** *SC* *P* *L* # 247
Diab, Wael Broadcom

Comment Type **E** *Comment Status* **A**
Several of the cross-refs appear in blue

SuggestedRemedy
If this is not intentional, please change back to black

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

The cross references that appear in blue have no link within this amendment. However, this is not documented anywhere in the draft - causing comments such as this.

Add a sentence to the editing instructions on page 15 (Clause 1):

Cross-references that do not point to text in this amendment are shown in Dark Blue and have no active link.

Cl **78** *SC* **78.4** *P* *L* # 248
Diab, Wael Broadcom

Comment Type **TR** *Comment Status* **A**
Pls make the changes to support fallback mode

SuggestedRemedy
See presentation diab_vetteth_01_0409.pdf

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

See motion #3

Cl **99** *SC* *P* **7** *L* **16** # 249
Diab, Wael Broadcom

Comment Type **E** *Comment Status* **A**
Suggest that all clause editors and other TF officers are listed

SuggestedRemedy
Per comment

Response *Response Status* **C**
ACCEPT.

Cl **48** *SC* **2.3** *P* **133** *L* **4** # 250

Chadha, Mandeep Vitesse Semiconducto

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

In figure 48-3a, LI is only indicated in Lane 1 and is as such inconsistent with clause 46.3.1.5a and table 46-3 which indicate LI in all the lanes.

SuggestedRemedy

Modify figure 48-3a to indicate LI in all the lanes.

Response *Response Status* **C**

ACCEPT.

Cl **22** *SC* **22.2** *P* **30** *L* **38** # 251

Traeber, Mario Infineon Technologies

Comment Type **T** *Comment Status* **A** *Late*

When the MAC deasserts LPI it should send a normal idle which includes deassertion of TXD as well. Also deassertion of TX_EN is not required since its not asserted during LPI (this will be consistent to clause 35). Thus change

"When the MAC device wishes the PHY to transition out of the low power idle state it deasserts TX_EN and TX_ER."

SuggestedRemedy

Change into:

"When the MAC device wishes the PHY to transition out of the low power idle state it deasserts TX_ER and TXD."

Response *Response Status* **C**

ACCEPT.

Comment type changed from E to T

Cl **35** *SC* **35.2.2.6a** *P* **71** *L* **1** # 252

Traeber, Mario Infineon Technologies

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

When the MAC deasserts LPI it should send a normal idle which includes deassertion of TXD as well. Thus change

"When the MAC device wishes the PHY to transition out of the low power idle state it deasserts TX_ER."

SuggestedRemedy

Change into:

"When the MAC device wishes the PHY to transition out of the low power idle state it deasserts TX_ER and TXD."

Response *Response Status* **C**

ACCEPT.

Comment type changed from E to T

Cl **78** *SC* **78.1.5.3.1** *P* **241** *L* **39** # 253

Traeber, Mario Infineon Technologies

Comment Type **ER** *Comment Status* **A**

This section shortly describes the concept of LPI on a PHY layer but only for 100baseTX, 1000baseT and 10GbaseT. From todays point of view this is incomplete and describes only a subset of PHYs.

SuggestedRemedy

Leave the description as is and add the other PHY types.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to 213.

Cl **78** *SC* **78.4.1.2** *P* **246** *L* **43** # 254
Traeber, Mario Infineon Technologies

Comment Type **ER** *Comment Status* **A** *Late*

The wording

"The Receive Tw_sys value can be larger than the default, and the extra wait time may be used by the receive link partner for power saving mechanisms that require longer wake-up time than the PHY-layer definitions."

does not really explicitly forbids requesting T_w < T_w_phy!

SuggestedRemedy

Refrase into:

"The Receive Tw_sys value can be larger but most not be smaller than the default. The extra wait time may be used by the receive link partner for power saving mechanisms that require longer wake-up time than the PHY-layer definitions."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Rephrase to:

"The Receive Tw_sys value can be larger but not smaller than the default. The extra wait time may be used by the receive link partner for power saving mechanisms that require longer wake-up time than the PHY-layer definitions."

Cl **28C** *SC* *P* **256** *L* **30** # 255
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *from the floor*

The only 1 codepoint has been removed from the reserved range (instead of 2).

SuggestedRemedy

Change first reserved message code from 00000001011 to 00000001100

Response *Response Status* **C**

ACCEPT.

Cl **36** *SC* **36.2.5.2.8** *P* **87** *L* **17** # 256
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *from the floor*

Row in Table36-3b has reference to autonegotiation of Twr - which has since been ditched.

SuggestedRemedy

Delete "TWR is set by the remote link partner during Auto-negotiation."

Response *Response Status* **C**

ACCEPT.

Cl **48** *SC* **48.2.6.2.5** *P* **142** *L* **17** # 257
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *from the floor*

Row in Table 48-10 has reference to autonegotiation of Twr - which has since been ditched.

SuggestedRemedy

Delete "TWR is set by the remote link partner during Auto-negotiation."

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.2.13.2.2** *P* **150** *L* **24** # 258
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *comment from the floor*

It is not clear when scrambler_reset_enable should be set.

SuggestedRemedy

Append a sentence to the definition of scrambler_reset_enable:

"The PHY shall set scrambler_reset_enable = TRUE if FEC is in use."

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.2.13.3.1** *P* **156** *L* **24** # 259
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *comment from the floor*

Rows in Table 49-3 has reference to autonegotiation of Twr - which has since been ditched.

SuggestedRemedy

Delete "TWR is set by the remote link partner during Auto-negotiation." (2 instances)

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.1.6** *P* **145** *L* **30** # 260
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *comment from the floor*

The FEC sublayer will require rx_lpi_active, so it must be added to the interface.

SuggestedRemedy

Add rx_lpi_active to fig 49-4 (just below scrambler_reset).

Response *Response Status* **C**

ACCEPT.

Also add the same change to comment 84

Cl **70** *SC* **70.7.2** *P* **205** *L* **15** # 261
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *comment from the floor*

The signal detect times need to be changed to match wake time shrinkage.

SuggestedRemedy

In table 70-6, change values for Tsa & Tsd from 2uS to 750nS.

Response *Response Status* **C**

ACCEPT.

Cl **71** *SC* **71.7.2** *P* **213** *L* **19** # 262
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *comment from the floor*

The signal detect times need to be changed to match wake time shrinkage.

SuggestedRemedy

In table 71-6, change values for Tsa & Tsd from 2uS to 750nS.

Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* *P* **223** *L* **15** # 263
Barrass, Hugh Cisco

Comment Type **T** *Comment Status* **A** *comment from the floor*

The signal detect times need to be changed to match wake time shrinkage.

SuggestedRemedy

In table 72-9, change values for Tsa & Tsd from 2uS to 750nS.

Response *Response Status* **C**

ACCEPT.