*Cl* **1** *SC* **1.3** *P* **24** *L* **10** # 32

Remein, Duane Huawei

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

Seems that if this long list is to be inserted in alphnumerical order is should be in alphnumerical. In this case IEC 62153-4 should not be the first entry in the list. In particulare see:
IEC 62153-4-14:2012
IEC 61967-1

*SuggestedRemedy*

Sort the list properly.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Move "IEC 62153-4-14:2012" after "IEC 62132-1"

*Cl* **30** *SC* **30.5.1.1.4** *P* **27** *L* **38** # 33

Remein, Duane Huawei

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

Given that this is a paragraph and not a list it would be better to include some surrounding text for context. AAlso I don't think you intent to add a new line after the 3rd para 2nd sentance but that could be infered from :
"...
For 10000BASE-T1, ...."

*SuggestedRemedy*

Change:
"Insert into the third paragraph in BEHAVIOUR DEFINED AS section of 30.5.1.1.4 after the second sentence
as follows:
BEHAVIOUR DEFINED AS:
...
For 1000BASE-T1, a link_status of OK maps to the enumeration “available”. All other states of link_status map to the enumeration “not available”.;"
to:
"Change the third paragraph in BEHAVIOUR DEFINED AS section of 30.5.1.1.4 after the second sentence
as follows:
BEHAVIOUR DEFINED AS:
For 100BASE-T2 and 100BASE-T4 PHYs the enumerations match the states within the respective link integrity state diagrams, Figure 32-16 and Figure 23–12. For 100BASE-TX, 100BASE-FX, 100BASE-LX10 and 100BASE-BX10 PHYs the enumerations match the states within the link integrity state diagram Figure 24–15. For 1000BASE-T1, a link_status of OK maps to the enumeration “available”. All other states of link_status map to the enumeration “not available”. Any MAU that implements management of Clause 28 or Clause 73 Auto-Negotiation will ..."

Underline the new text.

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

Existing editorial instructions are sufficient to merge the text into base standard.

*Cl* **30** *SC* **30.6.1.1.5** *P* **28** *L* **2** # 34

Remein, Duane Huawei

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

In 30.3.2.1.2 and 30.3.2.1.3 you include the words
"APPROPRIATE SYNTAX:
..."
whereas in 30.6.1.1.5 you don't. You should be consistent.

*SuggestedRemedy*

Add:
"APPROPRIATE SYNTAX:
..."
after each "Insert the following ..." editing instruction.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove
"APPROPRIATE SYNTAX:
…"
in 30.3.2.1.2, 30.3.2.1.3, 30.5.1.1.2

*Cl* **34** *SC* **34** *P* **31** *L* **1** # 35

Remein, Duane Huawei

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

What is a "yIntroduction" ??

*SuggestedRemedy*

Clause title is "Introduction" without the y

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

"yIntroduction" is not present in posted clear (http://www.ieee802.org/3/bp/private/Sources/P8023bp%20D1.5.pdf) or diff (http://www.ieee802.org/3/bp/private/Sources/P8023bp%20D1.5.CMP.pdf) documents

*Cl* **34** *SC* **34.1** *P* **31** *L* **15** # 36

Remein, Duane Huawei

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

The specific reference to automotive here is not needed and counter productive. If I use this technology in a boat or a house or and airplane will it not work? is it non-compliant in these applications?
I suggest removing the term automotive where is is not essential to the meaning of the sentence.

*SuggestedRemedy*

Strike the word "automotive" in the following locations:
Cl 34.1 pg 31 line 15
Cl 97.1 pg 57 line 17
Cl 97.1.2 pg 57 line 41 (to read "a link segment")
Cl 97.5.5 pg 114 line 38 (to read "a link segment")
Cl 97B.1.1 pg 193 line 22 (to read "The link segment test configurations are derived from two automotive industry use cases representative of common scenarios"

In Cl 34.1 pg 31 line 27 strike "the automotive media" so the sentence reads: "There are a number of other PHY types and their associated media,
including 1000BASE-T1 which uses a single balanced twisted-pair."

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

The link segment defined for 1000BASE-T1 PMD is based on automotive requirements, which is emphasized many times in Clause 97. The emphasis on "automotive link" segment is intended to prevent a casual reader from trying to use this link type in other applications, where operating conditions might differ substantially from the said automotive conditions.

*Cl* **45** *SC* **45** *P* **36** *L* **40** # 13

Tu, Mike Broadcom

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

The 1000BASE-T1 PHY low-power ability is indicated by register bit 1.2305.8. So the support of low-power mode is non-mandatory. This should be mentioned in subclause 45.2.1.130a.3.

*SuggestedRemedy*

Change the beginning of line 40 as the following:

"The low-power ability is indicated by register bit 1.2305.8. When the low-power feature is supported, the 1000BASE-T1 PMA/PMD may be placed into a low-power mode by setting bit 1.2304.11 to a one."

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Rewording of the first sentence to tie in BASE-T1 PMA/PMD. Also, bit 1.2304.11 affects BASE-T1 and not only 1000BASE-T1

Change the first sentence in line 40 to read as follows:

"The ability of BASE-T1 PMA/PMD to support a low-power mode is indicated by register bit 1.2305.8. When the low-power mode feature is supported, the BASE-T1 PMA/PMD may be placed into a low-power mode by setting bit 1.2304.11 to a one."

*Cl* **45** *SC* **45.2.1** *P* **35** *L* **15** # 11

Tu, Mike Broadcom

*Comment Type* **ER** *Comment Status* **D** *1.2304*

In Table 45-3, name of register 1.2304 is shown as "BASE-T1 PMA control". However this register is for 1000BASE-T1 PMA only. The name should be changed accordingly.

*SuggestedRemedy*

In Table 45-3, change name of register 1.2304 to "1000BASE-T1 PMA control".

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

This is a TECHNICAL comment!

Based on discussion at the last meeting, this register was expected to be used by 802.3bw as well, hence "BASE-T1" reference in 45.2.1.130a and subclauses.

*Cl* **45** *SC* **45.2.1.130a** *P* **35** *L* **46** # 12

Tu, Mike Broadcom

*Comment Type* **ER** *Comment Status* **D** *1.2304*

Register 1.2304 is only for 1000BASE-T1 PHY. The register name should be changed accordingly.

*SuggestedRemedy*

1. Change page 35 line 46 subclause title to "45.2.1.130a 1000BASE-T1 PMA control register (Register 1.2304)".

2. Change page 35 line 48 to: "... bits in the 1000BASE-T1 PMA control register ...".

3. Change page 36 Table 45-98a title to "1000BASE-T1 PMA control register bit definitions".

4. On page 36 between line 18 and line 29, change all "BASE-T1 PMA/PMD" to "1000BASE-T1 PMA/PMD", and "BASE-T1 PMD/PMA" to "1000BASE-T1 PMD/PMA" in the first and second paragraphs under subclause 45.2.1.130a.1.

5. On page 36 between line 40 and line 49, change all "BASE-T1 PMA/PMD" to "1000BASE-T1 PMA/PMD", and "BASE-T1 PMD" to "1000BASE-T1 PMD" in the first and second paragraphs under subclause 45.2.1.130a.3.

6. On page 99 Table 97-7, change "BASE-T1 PMA control register" to "1000BASE-T1 PMA control register" at line 8 and line 10.

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

This is TECHNICAL comment!

See comment #11 for rationale

*Cl* **45** *SC* **45.2.1.130a.1** *P* **36** *L* **24** # 38

Remein, Duane Huawei

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

If bit 1.2304.15 is indeed a copy of 1.0.15 then I would quesiton the need for this bit.
If you insist on including this then you should include bit 1.0.15 in the list of functional bits during a reset.

*SuggestedRemedy*

Remove this bit (prefered solution) from text and Table 45–98a

OR

Change sentence at line 27 to read "During a reset, a PMD/PMA shall respond to reads from register bits 1.0.15, 1.8.15:14 and 1.2304.15."

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

Given that "1.2304.15 is a copy of 1.0.15", there is no need for PMD to track status of 1.0.15. Tracking status of 1.2304.15 is sufficient.

*Cl* **45** *SC* **45.2.1.130a.3** *P* **36** *L* **39** # 39

Remein, Duane Huawei

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

There is no obvious reason to duplicate funcitons in the MMD.

*SuggestedRemedy*

Remove bit 1.2304.11 from text and Table 45–98a

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

The replication of individual register bits was done to keep all necessary control bits in a single space and simplify implementation - see TF decisions at May 2015 meeting.

*Cl* **45** *SC* **45.2.1.130b.4** *P* **37** *L* **52** # 40

Remein, Duane Huawei

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

This statement
"If the 1000BASE-T1 PMA/PMD supports the low-power feature, then it is controlled using bit 1.2304.11."
contradicts cl 45.2.1.130a.3 Low power (1.2304.11) which clearly states: "Bit 1.2304.11 is a copy of 1.0.11. Setting either bit shall put the 1000BASE-T1 PMA/PMD in low power mode."

*SuggestedRemedy*

Strike the statement.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This is a TECHNICAL comment!

Change

"If the 1000BASE-T1 PMA/PMD supports the low-power feature, then it is controlled using bit 1.2304.11."

to

"If the 1000BASE-T1 PMA/PMD supports the low-power feature, then it is controlled using bit 1.2304.11 or 1.0.11."

*Cl* **45** *SC* **45.2.1.130b.6** *P* **38** *L* **6** # 14

Tu, Mike Broadcom

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

Title of this subclause is different from the bit name shown in Table 45-98b.

*SuggestedRemedy*

Change the subclause title to "Receive fault (1.2305.1)".

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **45** *SC* **45.2.1.131** *P* **40** *L* **27** # 1

Lo, William Marvell Semiconducto

*Comment Type* **TR** *Comment Status* **D** *1.2100*

Bit 1.2100.15 is redundant and description conflicts
Bit 1.2100.15 is always set to 1 which means manual configuration all the time.
However if Auto-Negotiation is enabled what happens?

Bit 1.2100.15 is not needed since 7.512.12 serves this function.
If 7.512.12 = 0 (Auto-Negotiation is disabled) means manual configuration is needed.
If 7.512.12 = 1 (Auto-Negotiation is enabled) means automatic configuration

*SuggestedRemedy*

Change 1.2100.15 to reserved and remove clause 45.2.1.131.1

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

If changes are needed, they should be made in 802.3bw first - this register was copied from P802.3bw after all.

*Cl* **45** *SC* **45.2.1.131.2** *P* **40** *L* **49** # 5

Lo, William Marvell Semiconducto

*Comment Type* **TR** *Comment Status* **D** *1.2100*

Clarifying what happens when Auto-Negotiation is enabled

*SuggestedRemedy*

Change page 40 line 49 to 50
from
"MASTER-SLAVE manual config enable bit 1.2100.15 is set to one."
to
"Auto-Negotiation enable bit 7.512.12 is set to zero, or if Auto-Negotiation is not implemented."

Add to the end of the paragraph:
This bit shall be ignored when the Auto-Negotiation enable bit 7.512.12 is set to 1.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

If changes are needed, they should be made in 802.3bw first - this register was copied from P802.3bw after all.

*Cl* **45** *SC* **45.2.1.131.3** *P* **41** *L* **3** # 6

Lo, William Marvell Semiconducto

*Comment Type* **TR** *Comment Status* **D** *1.2100*

Add clarifying sentence when Auto-Negotiation is enabled

*SuggestedRemedy*

Change page 41 line 3
from
"Bits 1.2100.3:0 are used to set the mode of operation."
to
"Bits 1.2100.3:0 are used to set the mode of operation when Auto-Negotiation enable bit 7.512.12 is set to zero, or if Auto-Negotiation is not implemented."

Add to the end of the paragraph:
These bits shall be ignored when the Auto-Negotiation enable bit 7.512.12 is set to 1.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

If changes are needed, they should be made in 802.3bw first - this register was copied from P802.3bw after all.

*Cl* **45** *SC* **45.2.1.14b** *P* **35** *L* **25** # 37

Remein, Duane Huawei

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

You cannot change an inprocess draft (but I'm sympathetic with what your trying to do, even though bw is at D3.1 not D1.4)

This same issue exists on pg 40 line 16 (before 45.2.1.131)

*SuggestedRemedy*

Add editors note just below the editing instruction at both locations to read:
EDITORS NOTE (to be removed prior to publication) the editing instruction regardiong regiseter 1.18 will be updated once P802.3bw work is complete.

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

Editors already track P802.3bw progress, together with many TF participants. Adding notes does not change that fact.

*Cl* **45** *SC* **45.2.3** *P* **41** *L* **16** # 15

Tu, Mike Broadcom

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

In Table 45-119, register 3.2304, 3.2305, and 3.2306 are relevant to 1000BASE-T1 only. The register names should be changed accordingly.

*SuggestedRemedy*

In Table 45-119:

1. Change name of register 3.2304 to "1000BASE-T1 PCS control".
2. Change name of register 3.2305 to "1000BASE-T1 PCS status 1"
3. Change name of register 3.2305 to "1000BASE-T1 PCS status 2"

Replace all occurrences of " BASE-T1 PCS" to " 1000BASE-T1 PCS" within subclauses 45.2.3.50a, 45.2.3.50b, and 45.2.3.50c, and all subclauses under them (between page 41 line 29 and page 44 line 42).

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

These changes go against discussion at the last meeting, where these registers were marked as generic BASE-T1 registers.

*Cl* **45** *SC* **45.2.3.50a.1** *P* **42** *L* **8** # 22

Remein, Duane Huawei

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

If bit 3.2304.15 is indeed a copy of 3.0.15 then I would quesiton the need for this bit.
If you insist on including this then you should include bit 3.0.15 in the list of functional bits during a reset.

*SuggestedRemedy*

Remove this bit (prefered solution) from text and Table 45–98a

OR

Change sentence at line 27 to read "During a reset, a PMD/PMA shall respond to reads from register bits 3.0.15, 3.8.15:14, and 3.2304.15."

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

Given that "3.2304.15 is a copy of 3.0.15", there is no need for PMD to track status of 3.0.15. Tracking status of 3.2304.15 is sufficient.

*Cl* **45** *SC* **45.2.3.50a.2** *P* **42** *L* **10** # 23

Remein, Duane Huawei

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

There is no obvious reason to duplicate funcitons in the MMD.

*SuggestedRemedy*

Remove bit 3.2304.14 from text and Table 45–98a.
Add "BASE-T1" to the list of PCS's in 45.2.3.1.2 Loopback (3.0.14)

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

The replication of individual register bits was done to keep all necessary control bits in a single space and simplify implementation - see TF decisions at May 2015 meeting.

*Cl* **45** *SC* **45.2.3.50b.6** *P* **43** *L* **27** # 41

Remein, Duane Huawei

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

Given that bit 3.2305.2 is a latching low bit you cannot say that "When read as a zero, bit 3.2305.2 indicates that the BASE-T1 PCS receive link is down." As it may currently be in the link up state.

*SuggestedRemedy*

Change to read:
"When read as a zero, bit 3.2305.2 indicates that the BASE-T1 PCS receive link was down since the last time this register was read."

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

For all effects and purposes, the link is down as far as the purpose of this register is concerned. The text also follows other register descriptions already in Clause 45.

*Cl* **45** *SC* **45.2.3.50c.1** *P* **44** *L* **7** # 21

Remein, Duane Huawei

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

What is the difference between:
"This bit is a reflection of the .." (here in 45.2.3.50c.1) and
"This bit is a direct reflection of the ..." (as in 45.2.3.50c.2 and elsewhere)

*SuggestedRemedy*

Globaly change:
"This bit is a direct reflection of the" to
"This bit is a reflection of the"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **45** *SC* **45.2.3.50c.6** *P* **44** *L* **37** # 24

Remein, Duane Huawei

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

Typically in Cl 45 the bit(s) being described are referenced by number not name. In either case they should never be referred to as "This bit" (or some like phrase) before the explicit reference.

*SuggestedRemedy*

Change:
Cl 45.2.3.50c.6 Pg 44 line 30 from "The BER counter is" to Bits 3.2306.5:0 form"
Cl 45.2.3.50d.1 Pg 44 line 49 from "This bit" to "Bit 3.2308.15"
Cl 45.2.3.50d.2 Pg 45 line 36 from
"The state machine shall assign a value alternating between 0 and 1 to associate with the 8 octet OAM message transmit by the 1000BASE-T1 PHY." to
"Bit 3.2308.14) reflects an alternating assignement by the xxx state machine of 0 and 1 to associate with the 8 octet OAM message transmit by the 1000BASE-T1 PHY." Replace xxx with the proper name of the state maching (an xRef would also be nice).
Cl 45.2.3.50d.3 Pg 45 line 43 change "This bit" to "Bit 3.2308.13"
Cl 45.2.3.50d.4 Pg 45 line 49 change This bit" to "Bit 3.2308.12"

Make similar changes to: 45.2.3.50d.5, 45.2.3.50d.6, 45.2.3.50d.7, 45.2.3.50d.8, 45.2.3.50e, 45.2.3.50f.1, 45.2.3.50f.2, 45.2.3.50f.3, 45.2.3.50f.4, and 45.2.3.50g,

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change:
Cl 45.2.3.50c.6 Pg 44 line 30 from "The BER counter is" to "The BER counter formed by bits 3.2306.5:0 is"
Cl 45.2.3.50d.1 Pg 44 line 49 from "This bit" to "Bit 3.2308.15"
Cl 45.2.3.50d.3 Pg 45 line 43 change "This bit" to "Bit 3.2308.13"
Cl 45.2.3.50d.4 Pg 45 line 49 change This bit" to "Bit 3.2308.12"

Make similar changes to: 45.2.3.50d.5, 45.2.3.50d.6, 45.2.3.50d.7, 45.2.3.50d.8, 45.2.3.50e, 45.2.3.50f.1, 45.2.3.50f.2, 45.2.3.50f.3, 45.2.3.50f.4, and 45.2.3.50g,

*Cl* **45** *SC* **45.2.3.50d.6** *P* **46** *L* **10** # 25

Remein, Duane Huawei

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

The description her of bit 3.2308.3 is not entirly clear. I believe what you're trying to say is that this bit reflects something received from the link partner but the way it is worded this is not explicit.
"This bit is a delayed version of the value in 3.2308.2 that is loopback by the link partner."

*SuggestedRemedy*

Change to read:
"Bit 3.2308.3 reflects the value of the most recent Ping RX received from the link partner (see 97.7.2.2.1)."

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

"Bit 3.2308.3 represents the value of the most recent Ping RX received from the link partner (see 97.7.2.2.1)."

*Cl* **45** *SC* **45.2.3.50d.7** *P* **46** *L* **14** # 26

Remein, Duane Huawei

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

The description her of bit 3.2308.2 is not entirly clear. I believe what you're trying to say is that this bit is sent to the link partner but the way it is worded this is not explicit.
"This bit is set by the 1000BASE-T1 PHY for the link partner to loopback. The loopback value should be received after a small delay."

*SuggestedRemedy*

Change to read:
Bit 3.2308.2 is the value to be sent to the link partner via the Ping TX fucntion (see 97.7.2.2.2)

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change the first sentence in 45.2.3.50d.7 to read as follows:

"Bit 3.2308.2 represents the value to be sent to the link partner via the Ping TX function (see 97.7.2.2.2)."

*Cl* **45** *SC* **45.2.3.50g** *P* **47** *L* **40** # 29

Remein, Duane Huawei

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

You should probably clear the entire register set when 2317 is read. Also there is no reference to Table 45–163g .

*SuggestedRemedy*

Change text of 45.2.3.50g from:
"The 8 octet OAM message data from the link partner. Register 3.2313.15 shall be cleared when register 3.2317 is read."
to:
"Registers 3.2314 to 3.2317 contain teh 8 octet OAM message data from the link partner as shown in Table 45–163g. These registers shall be cleared when register 3.2317 is read."

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

3.2313.15 is a "Link partner OAM message valid" register and it is defined in Table 45–163f. Current text is correct as is.

*Cl* **45** *SC* **45.2.3.50g** *P* **48** *L* **1** # 2

Lo, William Marvell Semiconducto

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

Move table 45-163g together with clause 45.2.3.50g

*SuggestedRemedy*

See above

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There is no space today on page 47. Will consider forcing 45.2.3.50g onto the next page.

*Cl* **45** *SC* **45.2.7.14a** *P* **47** *L* **48** # 30

Remein, Duane Huawei

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

Given that 45.2.7.14a to 45.2.7.14f are an addition to Cl 45.2.7 a separet Editors instruction is in order.

*SuggestedRemedy*

Renumber 45.2.7.14a thru 45.2.7.14f to 45.2.7.15 thru 45.2.7.20, respectively (use default para style with no overrides).
Add immediately before 45.2.7.15 BASE-T1 AN control register (Register 7.512)
"Insert 45.2.7.15 through 45.2.7.20 and sub-clauses after 45.2.7.14 as follows:"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add editorial instruction before 45.2.7.14a to read as follows: "Insert subclauses 45.2.7.14a through 45.2.7.14f as shown below"

*Cl* **45** *SC* **45.2.7.14a.2** *P* **49** *L* **23** # 16

Tu, Mike Broadcom

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

The current text on line 23 to 25 said:

"The default value of bit 7.512.12 is one, unless the BASE-T1 PHY reports via bit 7.513.3 that it lacks the ability to perform Auto-Negotiation, in which case the default value of bit 7.512.12 is zero."

However if a PHY supports auto-negotiation but the oem decides not to enable it, then this becomes impossible based on the current text. We need to let the oem control the auto-negotiation enable/diable even when auto-negotiation is supported by the PHY.

*SuggestedRemedy*

Option #1: Remove this paragraph.

Option #2: Change the paragraph to "If the BASE-T1 PHY reports via bit 7.513.3 that it lacks the ability to perform Auto-Negotiation, then the value of bit 7.512.12 shall be zero."

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Editor prefers simpler option #1 - the OAM may then disable autoneg as needed.

*Cl* **45** *SC* **45.2.7.14b.6** *P* **51** *L* **4** # 17

Tu, Mike Broadcom

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

Bit 7.513.0 is read only, which indicates the link partner auto-negotiation ability. This information is generally not available untill the auto-negotiation is successfullly started. I think this bit is not needed.

*SuggestedRemedy*

Remove subclause 45.2.7.14b.6. Also delete the corresponding entry in Table 45-211b for bit 7.513.0.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove subclause 45.2.7.14b.6. Mark the corresponding entry in Table 45-211b for bit 7.513.0 as reserved

*Cl* **97** *SC* **97.1.2.1** *P* **59** *L* **16** # 31

Remein, Duane Huawei

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

I find it strage that there no indicatation in this draft of which Reconcilliation Layer specification is to be used for this. Presumable it is Cl 35 but that should be excplicitly stated.

*SuggestedRemedy*

Chnage:
"The 1000BASE-T1 PCS couples a Gigabit Media Independent Interface (GMII), ..."
to
"The 1000BASE-T1 PCS couples a Reconciliation Sublayer (RS) and Gigabit Media Independent Interface (GMII), ..."

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

This is PCS - it does not attach to RS in any way. North-bound it is connected to GMII and south-bound - to PMA.

*Cl* **97** *SC* **97.10.2.1** *P* **141** *L* **19** # 42

Chini, Ahmad Broadcom

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

Need to clarify the requirement is only for automotive applications (not industrial)

*SuggestedRemedy*

Change

The 1000BASE-T1 PHY is designed to operate in the automotive environment. All equipment subject to this clause shall conform to

to

The 1000BASE-T1 PHY is designed to operate in the automotive and industrial environment. When used in an automotive environment, the equipments shall conform to

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change

The 1000BASE-T1 PHY is designed to operate in the automotive environment. All equipment subject to this clause shall conform to

to

The 1000BASE-T1 PHY is designed to operate in an automotive and industrial environment. When used in an automotive environment, equipment subject to this clause shall conform to

*Cl* **97** *SC* **97.2** *P* **65** *L* **28** # 58

Regev, Alon Ixia

*Comment Type* **TR** *Comment Status* **D** *LOCDATAREADY*

In figure 97-3, the signal labeled "PMA_LOCDATAREADY" does not refer to a defined service interface. It actually refers to "PMA_DATAREADY.indication" (and should be renmaed to "PMA_PHYREADY.indication" per my other comment.

In Figure 97-3, the signal lableled "PMA_REMDATAREADY" should contain ".request" (and should be renamed to PMA_REMPHYREADY.request per my other comment"

*SuggestedRemedy*

In Figure 97-3:

change "PMA_LOCDATAREADY" to "PMA_PHYREADY.indication"

change "PMA_REMDATAREADY" to "PMA_REMPHYREADY.request"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.2.2** *P* **64** *L* **38** # 53

Regev, Alon Ixia

*Comment Type* **T** *Comment Status* **D** *LOCDATAREADY*

PMA_DATAREADY.indication should be renamed to PMA_PHYREADY.indication to match the name changes of the variable from loc_data_ready to loc_phy_ready during the last interim meeting.

*SuggestedRemedy*

change "PMA_DATAREADY.indication" to "PMA_PHYREADY.indication" throughout the document.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comments #18 and #58

*Cl* **97** *SC* **97.2.2** *P* **64** *L* **38** # 4

Lo, William Marvell Semiconducto

*Comment Type* **TR** *Comment Status* **D** *LOCDATAREADY*

The following were globally renamed in D1.5 "loc_data_ready" to "loc_phy_ready" and "rem_data_ready" to "rem_phy_ready" to make the names more clear.

However two newly defined variables in D1.5 PMA_DATAREADY and PMA_REMDATAREADY
should also have been renamed as PMA_LOCPHYREADY and PMA_REMPHYREADY to be consistent.

There is also one place where the wrong variable is used 97.2.2.10
PMA_REMDATAREADY is erronously listed as PMA_DATAREADY

*SuggestedRemedy*

PMA_DATAREADY change to PMA_LOCPHYREADY
Page 64 line 38
Page 65 line 28
Page 69 line 1, 8, 17

PMA_REMDATAREADY change to PMA_REMPHYREADY
Page 64 line 40
Page 65 line 26
Page 70 line 17

PMA_DATAREADY change to PMA_REMPHYREADY
Page 70 line 1, 8

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comments #18 and #58

*Cl* **97** *SC* **97.2.2** *P* **64** *L* **38** # 18

Tu, Mike Broadcom

*Comment Type* **ER** *Comment Status* **D** *LOCDATAREADY*

The name of primitive should match to the corresponding parameter.

1. PMA_DATAREADY should be renamed to PMA_PHYREADY.
2. PMA_REMDATAREADY should be renamed to PMA_REMPHYREADY.

*SuggestedRemedy*

1. Change all occurrences of "PMA_DATAREADY" to "PMA_PHYREADY".
2. Change all occurrences of "PMA_REMDATAREADY" to "PMA_REMPHYREADY".

The necessary text changes include the following locations:
1. Page 64 line 38 PMA_DATAREADY => PMA_PHYREADY
2. Page 64 line 40 PMA_REMDATAREADY => PMA_REMPHYREADY
3. Page 65 line 26 Figure 97-3 PMA_REMDATAREADY => PMA_REMPHYREADY
4. Page 65 line 28 Figure 97-3 PMA_LOCDATAREADY => PMA_PHYREADY
5. Page 69 line 1 PMA_DATAREADY => PMA_PHYREADY
6. Page 69 line 8 PMA_DATAREADY => PMA_PHYREADY
7. Page 69 line 17 PMA_DATAREADY => PMA_PHYREADY
8. Page 70 line 1 PMA_DATAREADY => PMA_REMPHYREADY
9. Page 70 line 8 PMA_DATAREADY => PMA_REMPHYREADY
10. Page 70 line 17 PMA_REMDATAREADY => PMA_REMPHYREADY

Also need to regenrate the Table of Contents.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.2.2** *P* **64** *L* **40** # 57

Regev, Alon Ixia

*Comment Type* **TR** *Comment Status* **D** *LOCDATAREADY*

inconsistent name for a service interface between PMA_REMDATAREADY.request and PMA_DATAREADY.request: On page 64, line 40 it is called "PMA_REMDATAREADY.request" and on page 70 line 1 it is called "PMA_DATAREAD.request"

Also, PMA_REMDATAREADY.request should be renamed to PMA_REMPHYREADY.request to match the name changes of the variable from rem_data_ready to rem_phy_ready during the last interim meeting.

*SuggestedRemedy*

Change all occurances of "PMA_REMDATAREADY.request" and "PMA_DATAREADY.request" to "PMA_REMPHYREADY.request"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comments #18 and #58

*Cl* **97** *SC* **97.3** *P* **72** *L* **11** # 54

Regev, Alon Ixia

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

In Figure 97-4, the loc_phy_ready signal is missing. It should be a solid arrow from the bottom of the figure to the PCS Transmit.

*SuggestedRemedy*

Add a solid arrow from the bottom of the figure to the PCS Transmit block and label is "loc_phy_ready"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.2.2.16** *P* **81** *L* **36** # 56

Regev, Alon Ixia

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

"normal operational mode" should be "normal power mode". This was corrected by an earlier comment (between D1.3 and D1.4), but due to mistake one of my comments against D1.4 it was reverted back to "normal operational mode"

*SuggestedRemedy*

On page 81, line 36, change "normal operational mode" to "normal power mode"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.2.2.5** *P* **77** *L* **7** # 7

Lo, William Marvell Semiconducto

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

Added control code in D1.5 but did not update equations

*SuggestedRemedy*

Change
TD[n][5:7] = 010 – IPG, 101 – LPI, 001 – TX Error
to
TD[n][5:7] = 010 – IPG (loc_phy_ready = OK), 101 – LPI, 001 – TX Error, 000 – IPG (loc_phy_ready = NOT_OK)

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.2.3** *P* **81** *L* **53** # 52

Regev, Alon Ixia

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

"Ordered set" is only defined for 1000BASE-T1 and it is only used in 1 place in the specificaion.

*SuggestedRemedy*

changed "80B/81B ordered sets" to "80B/81B blocks" to match the rest of the text.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.2.3** *P* **82** *L* **17** # 47

Chini, Ahmad Broadcom

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

"Partial RS frame" is used in the mentioned page and other places but there is no formal definition provided

*SuggestedRemedy*

Define "Partial RS frame"

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

No definition was provided.

*Cl* **97** *SC* **97.3.4.1** *P* **84** *L* **10** # 9
Tu, Mike Broadcom

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

The equations should be reformatted for accuracy.

*SuggestedRemedy*

See tu_3bp_01_0715.pdf.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.4.1** *P* **84** *L* **7** # 10
Tu, Mike Broadcom

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

Replace "Infofield" with "InfoField".

*SuggestedRemedy*

Change "Infofield" to "InfoField" at the following locations:

1. Page 84 line 7 (end of paragrapph).
2. Page 84 line 9 (within Equation 97-7).
3. Page 96 line 36 (title os subclause 97.4.2.4.1).
4. page 96 line 51.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.5** *P* **85** *L* **4** # 19
Jim, Graba Broadcom Corporation

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

In Figure 97-11 the number 189 is intended to denote when the leading edge of the Slave Refresh occurs in units of tx_pfc. However it may be confused with lpi_offset (195).

*SuggestedRemedy*

Change 189 to 195 and move it to be directly over lpi_offset. Also move 354 to be directly over lpi_quiet_time for consistency.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.6.2.2** *P* **105** *L* **46** # 51
McClellan, Brett Marvell

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

There's some ambiguity on when tx_lpi_active is set true.
We should clarify whether tx_lpi_active is set TRUE by a single symbol or an entire block.

*SuggestedRemedy*

change "an LP_IDLE detected on GMII during the last 80B/81B block"
to "LP_IDLE detected on GMII during the entire last 80B/81B block"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

Comment is against page 88, line 26 - please comment against CLEAN version of the document!

*Cl* **97** *SC* **97.3.6.2.2** *P* **88** *L* **47** # 3
Lo, William Marvell Semiconducto

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

The x sign in lines 47 and 48 are incorrect
They were correct in D1.4 as *

We want a logic AND not a multiply

*SuggestedRemedy*

Change "x" to "*"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.3.7.1** *P* **93** *L* **6** # 20
Jim, Graba Broadcom Corporation

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

"A latch high view of this status is reflected in MDIO register 3.2305.9 (Tx LPI received)."
This is a typographical error since 3.2305.9 is already used for the current Tx LPI status.
3.2305.11 is allocated for Tx LPI received.

*SuggestedRemedy*

Replace 3.2305.9 in line 6 with 3.2305.11.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.4** *P* **94** *L* **4** # 55

Regev, Alon Ixia

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

In Figure 97-15, loc_phy_ready is missing. It should be a solid arrow originating on the PMA RECEIVE and going to LINK MONITOR, PHY CONTROL, and pointing up to at the top edge of the figure.

*SuggestedRemedy*

Add a solid arrow labeled loc_phy_ready originating on the PMA RECEIVE and going to LINK MONITOR, PHY CONTROL, and pointing up to at the top edge of the figure (towards the heavens and the PCS).

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.4.4.1** *P* **103** *L* **43** # 48

Chini, Ahmad Broadcom

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

The requirement is simplified for implementation if same duration is used for 0,+1 and -1

*SuggestedRemedy*

Change

— PAM3 symbol 0 consecutively seen on the line for longer than 2 ìs ± 0.1 ìs
— PAM3 symbol +1 consecutively seen on the line for longer than 3.9 ìs ± 0.1 ìs
— PAM3 symbol -1 consecutively seen on the line for longer than 3.9 ìs ± 0.1 ìs

to

— PAM3 symbol not toggling on the line for longer than 3.9 micro seconds

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.4.4.1** *P* **104** *L* **5** # 50

McClellan, Brett Marvell

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

It is not clear whether the state of rem_phy_ready is defined or not defined when Normal Inter-Frame is not received at the PCS.

*SuggestedRemedy*

Add to line 5 "The variable will retain its value until the next Normal Inter-Frame is received."

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add to line 5 "The variable retains its value until the next normal Inter-Frame idle is received."

*Cl* **97** *SC* **97.4.4.1** *P* **129** *L* **34** # 49

McClellan, Brett Marvell

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

"NOT_OK" gets assigned, not defined

*SuggestedRemedy*

change "defined" to "assigned", also on line 39

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

Comment is against page 103, line 42 - please comment against CLEAN version of the document!

*Cl* **97** *SC* **97.5.5.2** *P* **117** *L* **39** # 44

Chini, Ahmad Broadcom

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

Need to provide additional statement for cable requirements given application is mentioned to include aircraft, railway, bus and heavy trucks. The existing requirements for Type B cables do not cover all these applications.

*SuggestedRemedy*

Add the following statement on line 42.

For some of the applications using 40m link segment, there may be additional or different requirements that is not covered by this subclause and needs to be satisfied and agreed between the customer and the supplier.

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

We do not DEFINE what the standard does not cover. Any vendor-customer specific requirements are part of RFI/RFP and not standard.

*Cl* **97** *SC* **97.5.5.2.4** *P* **119** *L* **27** # 46

Chini, Ahmad Broadcom

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

Table 97-13 does not include E4

*SuggestedRemedy*

change

E1, E2, E3 or E4.

to

E1, E2 or E3.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

*Cl* **97** *SC* **97.5.5.2.4** *P* **119** *L* **40** # 43

Chini, Ahmad Broadcom

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

In table 97-13, enteries for E1 and E2 are the same.

*SuggestedRemedy*

Update the table 97-13 to reflect a new class of requirement for E2. Also note that Class E2 needs to be 10dB tighter than E1 and E3 to be 20dB tighter than E1 in order to match 97-12 requirements. E3 requirement may need to be updated to match 97-12.

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

No specific values are proposed.

*Cl* **97** *SC* **97.7.3** *P* **132** *L* **8** # 27

Remein, Duane Huawei

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

Cl 45 is option and should not be made mandatory, in whole or in part, for any modern PHY.
"MMD3 of the Clause 45 Management Data Input/Output (MDIO) interface shall be provided as the logical interface to access the device registers for OAM and other management purposes."

If Cl 45 is inddeed considered mandatory then I would suggest you should update Cl 45 PICS with the 50-60 new requriements added to that clause before beign considered technically complete.

*SuggestedRemedy*

Remove the shall. I reccomment adopting the wording in other Section 6 clauses such as is found in 82.3.1
"The optional MDIO capability described in Clause 45 defines several variables that may provide control and status information for and about the PCS. Mapping of MDIO control variables to PCS control variables is shown in Table 82–10. Mapping of MDIO status variables to PMD status variables is shown in Table 82–11."

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change first para under 97.7.3 to read as follows:

"The optional MDIO capability described in Clause 45 defines several variables that may provide control and status information for and about the PCS. Mapping of MDIO control and status variables to PCS control variables is shown in Table 97–15."

*Cl* **97** *SC* **97.7.3** *P* **132** *L* **8** # 28

Remein, Duane Huawei

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

The content of Table 97-15 is very similare ot various tables in Section 6 such as Table 82–10 & Table 82–11. The structure shoudl match as well to help maintain consistency in the standard.

*SuggestedRemedy*

Change table format (header & columns) to match Table 82–10 (include xRef to Cl 45 sections).

*Proposed Response* *Response Status* **W**

PROPOSED REJECT.

We are consistently inconsistent …

*Cl* **98** *SC* **98.2.1.1.1** *P* **152** *L* **40** # 8

Lo, William Marvell Semiconducto

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

Text makes no sense when random polarity is determined in an implementation specific manner.

*SuggestedRemedy*

Delete the following text:
If the bit is a 1 then the starting polarity is positive, otherwise the starting polarity is negative.

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.

Actual location *seems to be* page 160, line 40.

*Cl* **99** *SC* **99** *P* **1** *L* **17** # 45

Chini, Ahmad Broadcom

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

Cable name is different from one used in the text.

*SuggestedRemedy*

Change

Twisted Pair Copper"

to

Balanced Twisted Pair"

*Proposed Response* *Response Status* **W**

PROPOSED ACCEPT.