

Follow-up on r01-15

(unsatisfied comment against 802.3bp D3.1)

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Background: comment r01-15

<i>Cl</i> 97	<i>SC</i> 97.5.4.1	<i>P</i> 137	<i>L</i> 7	# r01-15
RAN, ADEE		Intel Corporation		
<i>Comment Type</i>	TR	<i>Comment Status</i>	A	<i>EZ</i>
Following unsatisfied comment i-140:				
Multiple issues in this subclause...				
The content deals with the receiver's performance requirements (stated as BER but actually measured using "frame error ratio", which is undefined) when used with various link segments. The title "receiver differential input signals" seems completely irrelevant for its content.				
The required performance is probably dependent on having a fully compliant remote transmitter (otherwise, anything can happen). 97.5.3.1 is just a part of the transmitter specifications.				
The "shall" in this clause seems to address the way of satisfying the specification - this complex and unusual way of making normative requirements.				
"frame error ratio" is not defined anywhere and it isn't clear how it's supposed to be measured. A suitable performance metric which is already defined (see 1.4.223) is "frame loss ratio". It is probably what is intended here.				
"link type A" and "link segment B" are inconsistent with the defined terms for link segments.				

- Suggested remedy included several items.
- The response addressed each item separately. Most of the response is satisfactory.
- Some parts are still somewhat broken, as shown in the next slides.
- Detailed suggested remedy follows.

Response part 1

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Change the title from "Receiver differential input signals" to "Receiver performance specification" or "Receiver error rate specification" or the like. Change the feature name of PICS item PMI4 accordingly.

Editor's response: no change. For BASE-T PHYs this is well understood, see 10GBASE-T, [802.3] subclause 55.5.4.1 Receiver differential input signals

- Clause 55 does have the same issue...
- I am considering future maintenance request/comment to fix the title in all similar clauses (including one added now by 802.3bq).
- No problem with this part for now.

Response part 2

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Change: "Differential signals received at the MDI that were transmitted from a remote transmitter within the specifications of 97.5.3.1 and have passed through a link type A" to "A receiver that is connected to a compliant remote transmitter using a link segment type A"

Editor's response: change to: Differential signals received at the MDI that were transmitted from a remote transmitter within the specifications of 97.5.3.1 and have passed through a link specified in 97.6 are received with a BER less than 10^{-10} and sent to the PCS after link reset completion. This BER specification shall be satisfied by a frame error ratio less than 10^{-7} for 125-octet frames.

- I can live with the “shall be satisfied” since (unfortunately) it has precedence in clause 55.
- This does not address the problem stated in the comment: 97.5.3.1 (maximum output droop) is just one part of the transmitter specifications! This requirement should apply only with a fully compliant transmitter (including distortion, jitter, PSD, PtP, and clock frequency) so should refer to 97.5.3.
- The change introduces another problem – the designation “type A” was removed, and “link specified in 97.6” includes both type A and type B. So this paragraph now requires operation on type B, which is supposed to be optional.
- With this change, the support of the optional operation type B link segment is not declared anywhere!
 - “If optional support of operation on link segment B is specified” – well, it is specified *here*. A receiver either supports this option or not.
 - No PICS item showing support/no support of this option!
 - The link segment type B is defined as “optional” in 97.6 – but it does not apply to the PHY...

Response part 4

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Change "link type A" "link segment type A" and "link segment B" to "link segment type B".

Editor's response: no change, links designated as type A need to remain designated as such.

- Current text includes
 - “and have passed through a **link type A** specified in 97.6”
 - “If optional support of operation on **link segment B** is specified”
- Both terms are inconsistent with definitions in 97.6:
 - “This link segment is referred to as *link segment type A*”
 - “This link segment is referred to as *link segment type B*”

Suggested remedy – part 1

- Original text (D3.1)
 - Differential signals received at the MDI that were transmitted from a remote transmitter within the specifications of 97.5.3.1 and have passed through a link type A specified in 97.6 are received with a BER less than 10^{-10} and sent to the PCS after link reset completion.
- D3.2 (based on comment resolution)
 - Differential signals received at the MDI that were transmitted from a remote transmitter within the specifications of 97.5.3.1 and have passed through a link ~~type A~~ specified in 97.6 are received with a BER less than 10^{-10} and sent to the PCS after link reset completion.
- Proposed text
 - Differential signals received at the MDI that were transmitted from a remote transmitter within the specifications of 97.5.3.~~1~~ and have passed through a link segment type A (specified in 97.6.1 and 97.6.3) are received with a BER less than 10^{-10} and sent to the PCS after link reset completion.
- (this intends to keep operation over type B as optional, see next slide)

Suggested remedy – part 2

- Original text (D3.1)
 - If optional support of operation on link segment B is specified, the frame error ratio shall also be met for link segments specified at 97.6.2 and 97.6.4.
- D3.2 (based on comment resolution)
 - If optional support of operation on link segment B is specified, the frame ~~error~~ loss ratio shall also be met for link segments specified at 97.6.2 and 97.6.4.
- Proposed text
 - ~~If optional support of~~ Operation on link segment type B is ~~specified~~ optional. If supported, the frame loss ratio shall also be met for link segments specified at 97.6.2 and 97.6.4.
- Also, add two PICS items: supporting this option, and complying with the requirement if the option is supported.