Cl **33**	*SC* **32**	*P* **18**	*L* **32**	# 85

Darshan, Yair — Microsemi Corporation

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

Draft 1.0:
The note here is redundant due to the fact that the Midspan is required to meet 33.4.8 requirements in page 72.

SuggestedRemedy

Remove Note in lines 32-34

Proposed Response   *Response Status* **O**

see 232

Cl **33**	*SC* **33.2.1**	*P* **18**	*L* **32**	# 232

Law, David — 3Com

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

This note states that 'Midspans implementing Alternative A are not allowed to interfere with the data performance of a 100BASE-TX link. While true it is also true that Midspans implementing Alternative B are also not allowed to interfere with the data performance of a 100BASE-TX link, nor for that matter are Midspans in general allowed to interfere with the data performance of the link. This note however makes that fact unclear by specifically mentioning on 100BASE-TX.

The note then goes on to state 'Refer to Clause 25 for 100BASE-TX compatibility requirements.' If Clause 25 is examined, and in particular its requirement to comply with TP-PMD, two sets of requirements will be found. Set [1] is the channel requirements and set [2] is the MDI requirements. Now I believe that the channel requirements will be met by the conformance requirements found in subclause 33.4.8 'Midspan PSE device additional requirements' and its subclauses so set [1] is covered.

This leaves set [2] and since they are related to the MDI they would not normally apply to the midspan PI. I do believe however in the case of 100BASE-TX there is a requirement that need to be carried over to the PI. This requirement is found in ANSI X3.263-1995 (TP-PMD) subclause 9.1.7 'Worst case droop of transformer' which states:

Baseline Wander tracking by the receiver is dependent on the worst case droop that can be produced by a transmitter. Droop is directly related to the Open Circuit Inductance (OCL) which varies with temperature, manufacturing tolerance, and bias current.
Worst case Baseline Wander Frames vary the transformer bias which causes the droop to change with data content. This variation must be accounted for by the receiver to track the Baseline Wander over long frames. Variation in inductance caused by bias of the transformer can be on the order of 2:1.
The minimum inductance measured at the transmit pins of the AOI shall be greater than or equal to 350 uH with any DC bias current between 0 mA and +8 mA injected as shown in figure 13.

I understand that if a similar inductance is not provided at the output, that is transmit, side of both the data pairs through a Midspan, data corruption can occur due to baseline wander. Since this is a note it does not make this 350uH requirement mandatory, which it has to be.

So in summary:

[a] The note is misleading as it seems to imply that the requirement for no interference only applies to Alternative A 100BASE-TX Midspans.
[b] There is no need to reference the entire Clause 25 as most of the requirements there are also found in subclause 33.4.8
[c] There is one normative requirement which should be carried across to Midspans that support 100BASE-TX, the 350uH requirement. This however is not made mandatory for 100BASE-TX Midspans since this is only a note.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **33**
SC **33.2.1**

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SuggestedRemedy

Add the following new subclause under 33.4.8:

33.4.8.2 Worst case droop of transformer

The Midspan shall meet the inductance requirements of ANSI X3.263-1995 (TP-PMD) subclause 9.1.7 at the pins of the PI used as 100BASE-T transmit pins with the additional requirement that the minimum inductance be meet with any DC bias current between 0 mA and TBD mA.

Editors note to be removed before publication
The need for the additional requirement and related DC bias current range are the subject of discussion in the 350uH adhoc.

Proposed Response   *Response Status*   **O**

see 85

Cl **33**	*SC* **4.8**	*P* **72**	*L* **52**	# 220

Law, David   3Com

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

This subclause states that 'A Midspan PSE inserted into a channel shall provide continuity for the signal pairs.'. I'm not too sure what the term 'continuity' is mean to mean here - if it is an uninterrupted connection I don't think that is true anymore in the case of a Alternative B midspan which will have to use some form of DC blocking to ensure that power can only be sourced in one direction. That of course is covered on the next line which states 'Midspan PSE shall not provide DC continuity between the two sides of the segment for the pairs that inject power.'.

SuggestedRemedy

I suspect that the best approach is simply to delete the text 'A Midspan PSE inserted into a channel shall provide continuity for the signal pairs.' now that Alternative B Midspans are permitted. The line before it still requires that the channel characteristics be maintained.

Proposed Response   *Response Status*   **O**

It is intended to point out that they must provide continuity for the data. Perhaps this is obvious and we should delete the text.
This is baseline text…

Cl **33**	*SC* **Figure 33-4**	*P* **19**	*L* **54**	# 155

Sanita', Gianluca   Nokia Siemens Networ

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

Missing Midspam PSE, Altenative A.
It seems that this is not allowed from the standard.

SuggestedRemedy

Insert Midspam PSE, Alternative A figure

Proposed Response   *Response Status*   **O**

presently 10/100Mb alt A midspans are disallowed. With the allowance of 1000Mb alt A midspans that could conceivably be used in a 10 or 100Mb link, this needs reviewed. CE feels it needs allowed and yet another informative drawing added.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **33**
SC **Figure 33-4**

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