Cl **00** *SC* **0** *P* *L* # 352

Grow, Robert Intel

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

We have a general problem with numbering. Not all projects are following the same convention, for example, P802.3av is inserting clauses and instructing renumbering, but this project attempts to follow the Style Guide (laudable but difficult for us). As is shown by this draft, the Style Manual convention doesn't support adding a new subclause when it is the first at that level (add 45.2.1.4.1a before 45.2.1.4.1), and it doesn't support alphabetic subclause ordering when doing this more than once (something we frequently do. For example in Clause 45, a second amendment would typically place a new bit definition for example as 45.2.1.4.1b before 45.2.1.4.1a which is before 45.2.1.4.1, but place a new register definition 45.2.1.12b after 45.2.1.12a.

SuggestedRemedy

Work with WG Chair to better coordinate projects and use consistent style for indicating changes. Though it can get painful (and was why I build a spreadsheet for clause 45 to manage amendments), I think we need to not follow the Style Guide for subclause insertions (which is add letters without renumbering) but rather insert and renumber, but I'll leave that decision to the WG Chair and if he chooses to the WGAC.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Editorial license to find numbering that does not conflict with the finalized 802.3av amendment.

Cl **00** *SC* **0** *P* **1** *L* **1** # 255

Booth, Brad AMCC

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

IEEE P802.3ba has selected nomenclature that conflicts with previous uses of the same nomenclature letter. There has been an effort in the past decade to establish a consistent use of letters for port type nomenclature. Unfortunately, this was not noticed until the task force was in working group ballot.

IEEE P802.3ba should strive to keep its nomenclature consistent with IEEE Std. 802.3-2008. Maintaining a consistency will easily permit additional PMD types to be added to the 40GbE and 100GbE family.

See booth_01_0709.pdf for more information on nomenclature.

SuggestedRemedy

In all uses of SR, change from short reach to be short wavelength.

In all uses of LR, change from long reach to be long wavelength.

In all uses of ER, change ER to be HR, and change from extended reach to be high-power long wavelength.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
There was no agreement to change the nomenclature (see straw poll below)
Replace the two paragraphs starting "The letter C in the port type ..." in 80.1.4 with a description including a table similar to Table 52-1 and including reach.

The nomenclature was adopted by the Task Force in May 2008 (see motion #2). The adopted nomenclature was presented to the WG by the TF Chair during Jul'08 opening plenary.

The nomenclature was discussed in the task force which also included 802.3 WG members. The requirement for 802.3ba was to distinguish reach for different PMDs, and previous distinctions based on wavelength was not considered sufficient. Hence the current nomenclature was adopted. The nomenclature is also documented clearly in Clause 80.

The task force did discuss the consistency issue; during the discussions it was pointed out that the base document already uses same letter(s) to identify different characteristics. (e.g., B, L, S). Also in the base document numeric suffix identifies either number of lanes/wavelengths or distance. After considerable discussion there was consensus in the Task Force to adopt S, L and E to represent reach.

Also see comment #97.

Straw Poll: The Task force was asked to indicate a preference between the options:

Leave the nomenclature unchanged
change the nomenclature to one of 100GBASE-LRE4, 100GBASE-LR4E, 100GBASE-LR4-E

All in the room
Unchanged - 25
Change - 25

802.3 voters
Unchanged - 26
Change - 26

Cl **00** *SC* **0** *P* **1** *L* **20** # 164

Ghiasi, Ali Broadcom

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

KR does not close the 10 m link! Clause 85 has fundamental issues which I have raised them with my commetns aginst D2.0 and D1.2 but the fundamental issue not addressed. CL85 is about 1 year behind other clasue by my estimate.

SuggestedRemedy

I propose to spin CL85/86 into a new project

Response *Response Status* **U**

REJECT.
The commenter informed the Task Force that the suggested remedy should have read "I propose to spin CL85 into a new project"

The suggested remedy is not in the ballot scope which is to comment against the entire P802.3ba/D2.1 draft.

See response to Comment #96

Cl **45** *SC* **45.2.1.4.8** *P* **43** *L* **5** # 356

Grow, Robert Intel

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

As shown, edits from 802.3av could be lost. Change base text to 802.3av.

SuggestedRemedy

Correct instruction on p.42, l.44 to read: Change Table 45-6 as follows (P802.3av/D3.4):
Correct first line of your Table 45-6 so that it is strikethrough text of "1.4.15:8".
Delet row for bit 1.4.7 because it is defined in P802.3av/D3.4.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

"Change Table 45-6 (as modified by 802.3av) for 40 Gb/s and 100 Gb/s speed ability:"

Correct first line of your Table 45-6 so that it is strikethrough text of "1.4.15:8".
Delete row for bit 1.4.7 because it is defined in P802.3av/D3.4.

Cl **45** *SC* **Table 45-7** *P* **44** *L* **18** # 357

Grow, Robert Intel

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

The way it is specified, changes from P802.3av could be lost. Changes need to be marked against P802.3av/D3.4. It is unlikely at this point that additional PHY types will be added by P802.3av consequently, the 40 Gb/s code points could also be moved to start at 011011. The unused bits are simply "Reserved", not reserved for a specific project. (The problem being that if the specified project doesn't use them, are they still Reserved or can they now be used for private usage?)

SuggestedRemedy

Modify the editing instruction on p.43, l.21 to read: "Change indicated rows of Table 45-7 as follows (P802.3av/D3.4):", and get the change instruction closer to the Table (anchor or float problem).

Line 5 as a modification to P802.3av/D3.4 have strikethrough bit number "1.7.15:5".

Line 18 is wrong, and needs to be replaced with the Table 45-7 code points defined in P802.3av/D3.4 (no longer underscored).

Recommend moving 40 Gb/s code points to start with 011011, and starting 100Gb/s code points at 1000000 (leaving 011111 Reserved and available for the rumored 40 Gb/s serial PMA/PMD type). (If 40 Gb/s code points are not moved, the rows indicating "Reserved" would also be copied from P802.3av/D3.4). Change 100 Gb/s code points to start at 100000.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

"Change Table 45-7 (as modified by 802.3av) for 40 Gb/s and 100 Gb/s PMA/PMD type selections:"

Make Table 45-7 an active link.

Line 5, make strikethrough text "1.7.15:5".
Line 8, make strikethrough text "1.7.4:0".

Column for bit 4 is not underlined.

Replace line 18:

(0 1 x x x = Reserved for 802.3av)

1 1 1 x x = reserved
1 1 0 1 1 = reserved
1 1 0 1 0 = 10GBASE-PR-U3
1 1 0 0 1 = 10GBASE-PR-U1
1 1 0 0 0 = 10/1GBASE-PRX-U3
1 0 1 1 1 = 10/1GBASE-PRX-U2
1 0 1 1 0 = 10/1GBASE-PRX-U1
1 0 1 0 1 = 10GBASE-PR-D3
1 0 1 0 0 = 10GBASE-PR-D2
1 0 0 1 1 = 10GBASE-PR-D1
1 0 0 1 0 = 10/1GBASE-PRX-D3
1 0 0 0 1 = 10/1GBASE-PRX-D2
1 0 0 0 0 = 10/1GBASE-PRX-D1

Cl **45** *SC* **Table 45-83** *P* **64** *L* **46** # 359

Grow, Robert Intel

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

Use P802.3av/D3.4 as base text.

SuggestedRemedy

Modify change instruction by adding "(P802.3av/D3.4)". Change marking to be consistent with that base text. (Especially, include P802.3av/D3.4 specification for the 0010 line.)

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

"Change Table 45-83 (as modified by 802.3av) for 40 Gb/s and 100 Gb/s speed selection:"

Line 52:
0 0 1 0 = 10/1 Gb/s

Note also, line 50, the text is changed from:
x x 1 1 = Reserved

Cl **83** *SC* **83.5.10** *P* **211** *L* **13** # 33

Dawe, Piers
Avago Technologies

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

The PMA receive side PRBS31 checker would be much more useful if it could check a signal that had been through a gearbox, e.g. when testing whole modules or whole gearbox ICs. This is more of a concern for 100G than for 40G.
Also it is desirable to do the same test with the same pattern in module factory, and in host factory, and in service. See dawe_01_0509.pdf and subsequent work.
Note that the change of words below makes no difference to the high speed silicon of e.g. a 40G serial PMA or a 10-lane PMA pattern generator because a PRBS31 when 2-way 4-way bit-demuxed is four PRBS31s (with offsets >31 UI).
So far the analysis shows that interleaved PRBS31s have similar characteristics to single PRBS31s.

SuggestedRemedy

Change
"on each of the lanes" to "on each of the PCS lanes" here and at line 19.
Change "one lane and any other lane" to "one PCS lane and any other PCS lane"
In the paragraphs beginning line 25 and line 34, change "lane" or "lanes" to "PCS lane" or PCS lanes".
Delete "Note that bit multiplexing of per-lane PRBS31 may produce a signal which is not meaningful for downstream sublayers."
Provide 20 PRBS31 error counters in each direction, one per PCS lane.

Response *Response Status* **U**

REJECT.

This comment was not accepted based on dawe_01_0509. Subsequent investigation as shown in anslow_05_0709 gives some concern over this approach.

Cl **83** *SC* **83.5.10** *P* **211** *L* **27** # 253

Szczepanek, Andre
HSZ Consulting Ltd

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

There is no limit to the potential increment rate of the PRBS31 checker referenced in 49.2.12.
The checker implementation is difficult to match at high increment rates or in the prescence of burst errors (the source synchronous descrambler implementation error multiplication factor depends on burst pattern).

For most practical purposes stringent matching of the 49.2.12 implementation is not necessary. It would be sufficient to match the result of a 49.2.12 implementation only for isolated single bit errors and at errors rates better than 1 in a thousand.

SuggestedRemedy

Replace:
(see 49.2.12)

With:

The PRBS31 checker shall match the results of the checker implementation in 49.1.12 for isolated single bit errors and at errors rates better than 1 in a thousand.

Response *Response Status* **U**

REJECT.

While it is arguable that the existing PRBS31 checker is not ideal, it has stood the test of time for 10G interfaces and it is not compelling to diverge from this for 40/100GBASE-R

Cl **83A** *SC* **83A.3.3.4** *P* **371** *L* **48** # 35

Dawe, Piers Avago Technologies

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

Draft says abs(SCC22) <= 9 dB. SCC22 is a common mode output reflection response, so it must be less than 1 W/W, or 0 dB (S-parameters define power gain, not loss). If the common mode output reflection response at a particular frequency were 0.1 + 0.076j, the absolute response (without phase) would be sqrt(0.1^2 + 0.076^2) = 0.1259 W/W, or -9 dB. Not plus.
By comparison, the things called loss in Clause 85 actually are loss, hence positive.
The mathematics police pick on things like this.
Here's what SFF-8414 says (their capitals):
CAUTION: S-PARAMETERS ARE A MEASURE OF GAIN (OUTPUT REFERRED TO INPUT) BY DEFINITION. HOWEVER COMMON USAGE HAS INCORRECTLY IMPLEMENTED THE WORD 'LOSS' INSTEAD OF GAIN. PARAMETERS WHOSE AMPLITUDE IS EXPRESSED AS A NEGATIVE DB VALUE REPRESENT A GAIN LESS THAN ONE OR A POSITIVE 'LOSS'. PLEASE EXERCISE CAUTION IN THIS AREA AND UNDERSTAND THAT DATA MAY BE PRESENTED OR LABELED INCORRECTLY (i.e, GAINS BEING LABELED AS LOSSES).

SuggestedRemedy

Correct the signs of the S-parameters.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change equation 83A-6 to >=

Cl **83A** *SC* **83A.3.4.6** *P* **376** *L* **45** # 36

Dawe, Piers Avago Technologies

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

It's not clear that these jitter specs allow the two concatenated CDRs and an optical link, XFP style, that will be wanted when connecting e.g. a 40GBASE-LR4 module. This is a jitter accumulation issue. It would apply to a CR4 link using a big module and clocks derived from the signal also.
We could use module jitter transfer specs from XFP 3.9.2 (8 MHz max jitter transfer bandwidth, 1 dB jitter peaking <50 kHz). But as 802.3 specifies signals at compliance points more than transfer metrics like jitter transfer, another way would be to measure the transmit side signals (from host to module) with a 1 MHz clock recovery unit and the receive side signals (from module to host) with 4 GHz as in the draft. The 10G optical signals are defined with 4 GHz.

SuggestedRemedy

Modify the jitter specifications to be sure they do allow two concatenated CDRs and an optical link, XFP style.
Create two masks in figure 83A-12, with 1 MHz corner frequency for a transmit side signal, and the current 4 MHz for a receive side signal.

Response *Response Status* **U**

REJECT.

See comment 184

Cl **83B** *SC* **83B.1** *P* **385** *L* **40** # 159

Petrilla, John Avago Technologies

Comment Type **ER** *Comment Status* **R**

Figure 83B-1 is similar to Figure 83A-2 but the names on what may be identical items are different, e.g. XLAUI/CAUI Component vs XLAUI/CAUI IC, Driver vs Transmitter, Input vs Receiver. If these block diagram elements are actually the same, please use the same terminology, otherwise it can be confusiing. See also Fig 83B-3.

SuggestedRemedy

If the XLAUI/CAUI Component & XLAUI/CAUI IC are the same use the same name.
Likewise for Driver & Transmitter use Transmitter and for Input & Receiver use Receiver.

Response *Response Status* **U**

REJECT.

No concensus for change

Make figures 83B-1 and Figure 83A-2 consistent
Straw poll:
Use 83A-2 lables: 5yes
Use 83B-1 lables: 5yes

Cl **83B** *SC* **83B.1** *P* **385** *L* **40** # 325

D'Ambrosia, John Force10 Networks

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

Fig 83B-1 calls out connector loss of 0.5dB. This should be consistent with 86A.

Page 424 Line 36: The recommended maximum loss of the host channel (PCB only) at 5.15625 GHz is 3.5 dB.
Observation: 5.3dB - 3.5dB = 1.8dB for HCB + connector
Equation 83A-7 specifies 1.26dB for HCB trace only
Observation: 1.8dB - 1.26 dB = 0.54dB for connector only

but

However, specifications for HCB, MCB, and mated HCB/ MCB :
HCB: 1.26dB
MCB: 0.67dB
Mated HCB / MCB: 2.8dB
Connector loss = 2.8 - 1.26 - 0.63 = 0.87dB

SuggestedRemedy

Resolve what the loss of the connector should be.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

There is no reason for the connector loss to be different between host board and compliance board

Change table 83B-1 such that loss is specified at 5.15625 and change the following text to:

The loss budget of Equation 83A-9 is linearly scaled to 7.9 dB loss
at 5.15625 GHz for the Host XLAUI / CAUI component, and 2.1 dB loss at 5.15625 GHz for the module as per Table
83B-1 and Equation (83B-1) for the host and Equation (83B-2) for the module.

from:

The loss budget of Equation 83A-9 is linearly scaled to 7.9 dB loss
at 5.5 GHz for the Host XLAUI / CAUI component, and 2.1 dB loss at 5.5 GHz for the module as per Table
83B-1 and Equation (83B-1) for the host and Equation (83B-2) for the module.

Cl **83B** *SC* **83B.2.1** *P* **388** *L* **25** # 184

Ghiasi, Ali Broadcom

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

No definition on the nAUI CDR requirements

SuggestedRemedy

Please add section similar to XFP+ MSA Rev 4.5 section 3.9.2.
To redcue the host burden we may want to consider the max BW here 4 MHz insted of 8 MHz.

Response *Response Status* **U**

REJECT.

No concensus reached at this time.

Cl **83B** *SC* **83B.2.1** *P* **390** *L* **31** # 182

Ghiasi, Ali Broadcom

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

Vtx-demph was derived based on assumption of maximum module PCB loss, the impact of module PCB with near zero loss need to be studied and possibly adjust Vtex-demph

SuggestedRemedy

Please see ghiasi_03_0709

Response *Response Status* **U**

REJECT.

Comment Suggested remedy does not contain sufficient information to implement

Cl **83B** *SC* **83B.2.2** *P* **390** *L* **46** # 183

Ghiasi, Ali Broadcom

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

Receiver tolerance must inlcude the effect of cascaded CDR's

SuggestedRemedy

This is similar to XFP+ MSA Rev4.5 Fig 14, an option here would be to use 2 MHz BW to reduce the jitter tolerance on the host

see ghiasi_03_0709

Response *Response Status* **U**

REJECT.

See comment 184

Cl **85** *SC* *P* *L* # 37

Dawe, Piers Avago Technologies

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

Exchange of DME frames is an unnecessary burden on the host: it was designed for AN purposes but the other port types that this port could be connected to can't understand it.
The choice of link types is 4 x 3.125 lanes (CX4), 4x10G lanes, and 4x10G lanes with FEC, and this can be managed with 'Parallel Detection' not DME frames.
In the future, and in closed systems such as a supercomputer, support for legacy CX4 will be unnecessary.
Note that 16G Fibre Channel do not use DME frames, although for electrical PMDs they use training. They may use training frames to signal FEC support, although that should not be necessary.
DME signalling is not necessary for these copper links, and should not appear on front-panel ports.

SuggestedRemedy

Add text in Clause 85 saying that 40GBASE-CR4 and 100GBASE-CR10 can use Parallel Detection. Use the same method as 16GFC's link speed negotiation for CX4/CR4 negotiation. This is in line with the backward compatibility with CX4 and baseline "Parallel detection function to detect legacy 10GBASE-CX4 PHYs".

Response *Response Status* **U**

REJECT.
Suggested remedy inconsistent with baseline objetive to utilize 802.3ap electricals and to include backward compatability with CX4 see diminico_02_0708.pdf.
The commenter has not provided a sufficiently complete proposal for replacement of DME frames with a parallel detection mechanism.

Cl **85** *SC* **85.10** *P* **258** *L* **40** # 201

Ghiasi, Ali Broadcom

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

Max cable loss 21.55 is not the worst case

SuggestedRemedy

Increase 21.55 to 23.7 dB which is 2.27 dB/m of loss

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
OBE see comment#96

Cl **85** *SC* **85.7.9** *P* **241** *L* **32** # 277

Frazier, Howard Broadcom Corporation

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

There is no Clause 45 register bit referenced for PMD_fault in this subclause.

SuggestedRemedy

Delete the words "If the MDIO is implemented" at the beginning of the first sentence. Add the sentence: "If the MDIO interface is implemented, PMD_fault shall be mapped to the PMD_fault bit as specified in 45.2.1.2.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
See response comment#427

Cl **85A** *SC* **85A.3** *P* **402** *L* **18** # 208

Ghiasi, Ali Broadcom

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

max input voltage 1200 mV exceed the CL86 max value, cusomters want CL85 and 86 to have common electrical!

SuggestedRemedy

Make max input 850 mV more compatible with future CMOS process

Response *Response Status* **U**

REJECT.
See remedy comment#167

Cl **86** *SC* *P* *L* # 327

D'Ambrosia, John Force10 Networks

Comment Type **ER** *Comment Status* **R**

Naming of return loss parameters is inconsistent with naming nomenclature used in IEEE 802 and most other industry specifications, including Infiniband, Fibre Channel, XFP, OIF CEI, where the term "return loss," not "reflection" is used. The only exception being SFP+. Given current thoughts on being able to implement -SR and -CR ports through same MDI, care should be taken on similar terminology. While "S21" was used in Clause 47, further searches found no usage of SDDmn parameters in IEEE 802.3 Section 4 or Section 5.

1. Table 86A-1, Line 22, "Differential output reflection response, SDD22"
2. Table 86A-1, Line 23, "Common mode output reflection response, SCC22"
3. Table 86A-2 "Differential input reflection response SDD11"
4. Table 86A-2 "Reflected differential to common mode conversion, SCD11"
5. Table 86A-3 "Differential Output Reflection Response SDD22"
6. Table 86A-3 "Common mode output reflection response, SCC2"
7. Table 86A-4 "Differential input reflection response, SDD11"
8. Table 86A-4 "Reflected differential to common mode conversion, SCD11"

SuggestedRemedy

1. Table 86A-1, Line 22, "Differential output reflection response, SDD22"
2. Table 86A-1, Line 23, "Common mode output reflection response, SCC22"
3. Table 86A-2 "Differential input reflection response SDD11"
4. Table 86A-2 "Reflected differential to common mode conversion, SCD11"
5. Table 86A-3 "Differential Output Reflection Response SDD22"
6. Table 86A-3 "Common mode output reflection response, SCC2"
7. Table 86A-4 "Differential input reflection response, SDD11"
8. Table 86A-4 "Reflected differential to common mode conversion, SCD11"

Make following changes:
1. change "Differential output reflection response, SDD22" to "Differential Output Return Loss"
2. change "Common mode output reflection response, SCC22" to "Common-mode Output Return Loss"
3. Change "Differential input reflection response SDD11" to "Differential Input Return Loss"
4. Change "Reflected differential to common mode conversion, SCD11" to "Differential to Common-mode Input Return Loss"
5. Change "Differential Output Reflection Response SDD22" to "Differential Output Return Loss"
6. Change "Common mode output reflection response, SCC2" to "Common-mode Output Return Loss"
7. Change "Differential input reflection response, SDD11" to "Differential Input Return Loss"
8. Change "Reflected differential to common mode conversion, SCD11" to "Differential to Common-mode Input Return Loss"

Add definition to 1.4:
Return Loss: the ratio (expressed in dB) of reflected power at one port to the incident power at the same port. May refer to optical power or to electrical power in a specified frequency range. Note that the dB measurement of return loss is the absolute magnitude of the respective s-parameter dB magnitude measurement.

Response *Response Status* **U**

REJECT.
There was insufficient consensus within the sub-task force to make the changes as proposed.

After some debate an initial proposal was captured below:

In Tables 86A-1 and 86A-3, change "Differential output reflection response, SDD22" to "Differential output return loss"
In Tables 86A-1 and 86A-3, change "Common mode output reflection response, SCC22" to "Common mode output return loss"
In Table 86A-2 and Table 86A-4, change "Differential input reflection response, SDD11" to "Differential input return loss"
In Table 86A-2 and Table 86A-4, change "Reflected differential to common mode conversion, SCD11" to "Differential to common mode input return loss"

Make equivalent changes to definitions of these parameters in Clause 86A

1.4 of the base standard contains:

1.4.308 return loss: In 10BROAD36, the ratio in decibels of the power reflected from a port to the power incident to the port. An indicator of impedance matching in a broadband system. (See IEEE 802.3, Clause 11.)

Add:
1.4.xxx return loss: In 40G/100GBASE-R, the ratio of the power incident to a port to the power reflected from the same port. May refer to optical power or to electrical power in a specified frequency range.

Cl **86** *SC* **86.7.3** *P* **280** *L* **37** # 214

Ghiasi, Ali Broadcom

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

Condition of jitter tolerance test gives credit to the transmitter by allowing low frequncy jitter <4 MHz to be tracked but the receiver is not test with the same tracked SJ. This is called double dipping!

SuggestedRemedy

Jitter tolerance is part of receiver sensitivity test and the same SJ taken credity for must be tolerated.

As compromise I suggest 2 MHz for the corner frequency for the CRU and the jitter tolerance.

See ghiasi_02_0709

Response *Response Status* **U**

REJECT.
[Page changed from 286]
The commenter proposed to change clause 86 stressed receiver sensitivity test to include SJ as per the clause 87 SRS test.
There was no consensus in the sub-task force to do this.

Note also comments 168, 36, 175, 184, 183, 215, 224, 225.

Cl **86** *SC* **86.8.3.2** *P* **298** *L* **47** # 215

Ghiasi, Ali Broadcom

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

The CRU of 4 MHz allow tracking all low frequency which can be as result of power supply noise or clock source during normal operation but the receiver is not test with the same SJ. This is called double dipping!

SuggestedRemedy

As compromise I suggest 2 MHz for the corner frequency for the CRU and the jitter tolerance.

See ghiasi_02_0709

Response *Response Status* **U**

REJECT.
See response to comment 214
Note also comments 168, 36, 175, 184, 183, 214, 224, 225.

Cl **86A** *SC* *P* *L* # 329

D'Ambrosia, John Force10 Networks

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

All graphs of dB in Annex86a are negative in magnitude. This is inconsistent with the equations, which show absolute magnitudes, as well as the rest of 802.3, which does not show negative numbers.

SuggestedRemedy

Definition for return loss created in other comment

Add other definition for insertion loss in 1.4

Insertion Loss : the ratio (expressed in dB) of transmitted power at a port to the incident power at another port. May refer to optical power or to electrical power in a specified frequency range. Note that the dB measurement of insertion loss is the absolute magnitude of the respective s-parameter dB magnitude measurement.

Equations should result in positive number. Use one consistent form for an equation

parameter <=> limit (name) = equation

Draft should refrain from using specific 4 port s-parameter names. n-Port s-parameters are becoming more common. Presentation given in May did not focus on port numbers, just the different types of modes, i.e. differential, common-mode, differential to common-mode, and common-mode to differential.

Redo equations as described above, and then replot all graphs so magnitudes are posiitve.

Sparameter port names should not be used for names of limit lines.

Response *Response Status* **U**

REJECT.
There was a lack of consensus on this comment due to the lack of consensus on comment 327

Cl **86A** *SC* **86A.4.1** *P* **408** *L* **30** # 216

Ghiasi, Ali Broadcom

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

If the transmitter has very low RJ~0 then DDJ will approch J2 or 0.18 UI due to over emphasis. Over emphasis can result in sever eye degradation depending on the laser driver gain, etc.

SuggestedRemedy

To protect aginst these over-emphasis scinearios DDJ must be added with propose value of 0.12 UI.

Response *Response Status* **U**

REJECT.
The combination of other specifications, including the eye mask may protect against this.

There was no consensus to add this parameter.
Further study of this issue is invited.

Cl **86A** *SC* **86A.4.1** *P* **410** *L* **19** # 218

Ghiasi, Ali Broadcom

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

If the transmitter has very low RJ~0 then DDJ will approch J2 or 0.18 UI due to over emphasis. Over emphasis can result in sever eye degradation depending on the laser driver gain, etc.

SuggestedRemedy

To protect aginst these over-emphasis scinearios DDJ must be added with propose value of 0.12 UI.

Response *Response Status* **U**

REJECT. [Reclassified from 86A.4.2]
See response to comment 216.

Cl **86A** *SC* **86A.5.1.1.2** *P* **413** *L* **27** # 331

D'Ambrosia, John Force10 Networks

Comment Type **ER** *Comment Status* **R**

the term "through response" in Fig 86A-2 and 86A-3 is inconcistent with terminology used in p802.3ba as well as 802.3. The term is also used in the text.

This comment was submitted previously and the editor dismissed it saying it was the correct s-parameter, and quote Infiniband use of s-parameters. "Search of IBTA document shows use of term "insertion loss", but not "through response"

SuggestedRemedy

use "insertion loss"

change title for figure to

Fig 86A-2 "Insertion loss for PCB Traces"
Fig 86A-3 "Insertion loss limite of mated HCB-MCB"

replace term in text with "insertion loss"

Response *Response Status* **U**

REJECT.
There was a lack of consensus on this comment due to the lack of consensus on comment 327

Cl **86A** *SC* **86A.5.1.1.2** *P* **415** *L* **27** # 333

D'Ambrosia, John Force10 Networks

Comment Type **ER** *Comment Status* **R**

Title of Fig 86A-4 uses inconsistent name, as noted in other comments.

SuggestedRemedy

Change title of Fig 86A-4 to "Return Loss Limits for mated HCB-MCB"

Response *Response Status* **U**

REJECT.
There was a lack of consensus on this comment due to the lack of consensus on comment 327