Cl **120F** *SC* **120F.3.1** *P* **201** *L* **10** # 35

Ben Artsi, Liav — Marvell

Comment Type **T** *Comment Status* **D** *TPO extrapolation*

TP0a has been shown to be extremely difficult to be used as a point to measure Specified Tx compliance parameters.

SuggestedRemedy

Measurement will still be done at TP0a, but Tx is to be specified at TP0. A new annex is to be defined to specify method of extrapolating/simulating each of the Tx parameters from TP0 to TP0a. A presentation will be provided.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **152** *SC* **152** *P* **110** *L* **1** # 50

Brown, Matt — Huawei Technologies Canada

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

Clause 152 was updated in 802.3ct Draft 1.2 such that the Inverse FEC is generic and no amendments are required.

SuggestedRemedy

Delete Clause 152.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **162** *SC* **162.9.3** *P* **147** *L* **20** # 65

Mellitz, Richard — Samtec

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

SNDR needs be 0.5 dB less than SNR_Tx to account for measurements. Straw poll on this subject was done without proper presented data.

SuggestedRemedy

Replace SNDR 32.2 dB with 31.5 dB

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Based on straw poll #2 there is consensus to make the following change:

Implement the suggested remedy.

2020/4/22 Straw Poll #2
I support closing comment #64 using the suggested remedy.
Yes: 19
No: 12

Cl **162** *SC* **162.11.7** *P* **160** *L* **6** # 64

Mellitz, Richard — Samtec

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

SNR_Tx needs to account for host board crosstalk as suggested in mellitz_3ck_03b_1119 and lim_3ck_01_1119.pdf

SuggestedRemedy

Replace TBD for SNR_Tx with 32 dB

Response *Response Status* **C**

REJECT.

Resolve with comment #10014.

Cl **162** *SC* **162.11.7** *P* **160** *L* **11** # 136

Dawe, Piers Mellanox

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

Slide 6 of heck_3ck_01_0919 shows that the DFE taps are 2 and 3 are always strongly positive, and no taps strongly negative, yet the draft would allow such untypical/hypothetical channels that a real receiver need not, and maybe can't, cope with.
kasapi_3ck_01_1119 slide 7 shows the first tap also.
We need sensible minimum tap limits.

SuggestedRemedy

Add minimum tap weight limits:
Tap 1: min +0.3
Tap 2: min +0.05
Remembering that a tap weight limit isn't a hard pass-fail limit; channels can go outside it but pay a (very small, for one or two small excursions) increase in COM for the excess ISI noise that they cause; and that cable channels are smoother than backplane channels but can have higher loss:
All other taps: min -0.03 (tighter than for KR).
Turn the existing "Normalized DFE coefficient magnitude limit"s into "Normalized DFE coefficient limit"s.
Update definition of COM in 93A.1.

Response *Response Status* **C**

REJECT.

Although there is some support expressed for the proposal, there is concern that the limits may be too restrictive. Further analysis and consensus building is encouraged. There is no consensus to make the proposed change at this time.

Cl **162** *SC* **162.11.7** *P* **160** *L* **18** # 10151

Dawe, Piers Mellanox

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

[Comment resubmitted from Draft 1.0. Subcl. 162.11.7 - Pg 152 - ln 45]

40 UI span was chosen to fit data on backplane channels, and is excessive even for them. Cable channels are smoother. Very short low loss cables should pass easily anyway.

SuggestedRemedy

Change 40 to an appropriate number, e.g. 24.

Response *Response Status* **C**

REJECT.

The comment does not provide sufficient evidence to support the proposed change.

Cl **162** *SC* **162.11.7** *P* **160** *L* **18** # 148

Dawe, Piers Mellanox

Comment Type **T** *Comment Status* **A** *(nc2)*

This says "DFE floating tap span 40 UI" which is not what was intended. The span of the floating taps in this draft is 40-12 = 28.

SuggestedRemedy

Change the name or the number. Adjust 93A.1 if appropriate.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The name of the variable is somewhat ambiguous.

Change description to:
"DFE maximum span including floating taps"

Implement with editorial license.

Cl **162** *SC* **162.11.7** *P* **160** *L* **21** # 160

Kareti, Upen Reddy Cisco

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

DFE floating tap tail root-sum-of-squares limit 0.02, which is changed from from adopted baseline value of 0.03.
This constraint was created to avoid test programs to create unrelastic channel and subject serdes to pass such a channel This is not intended to limit resonable real channels. The value 0.03 is arrived by looking KR and CR channels for possible package combination. Constraing further only fails some of the channels including Task Force idendified must pass cahnnels.

SuggestedRemedy

Change back to Adopted base line value of 0.03 or eliminate this constatint altogether

Response *Response Status* **C**

REJECT.

[Editor's note: Changed page/line from 180/48 to 160/21.]

The change to 0.02 was adopted as a result of closing comment D1.0 comment #152 based on straw poll #12.

Based on straw poll #1, there is no consensus to make the proposed change.

2020/4/22 Straw poll #1
I support setting the DFE floating tap tail root-sum-of-squares number to:
A: 0.02
B: 0.025
C: 0.03
Chicago rules
A: 16 B: 11 C: 9

Cl **162** *SC* **162.11.7.1** *P* **160** *L* **42** # 41

Ben Artsi, Liav Marvell

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

Cable assembly "include PCB" section lacks the appropriate trace loss representation

SuggestedRemedy

Once adding two capacitive discontinuities to section 162.11.7.1 to accommodate the "include PCB" representation as described in benartsi_3ck_01a_0919.pdf slide #6 trace parameters should be updated accordingly, thus set trace parameters according to the supplied in slide #6 of benartsi_3ck_01a_0919.pdf

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement suggested remedy with editorial license.

Cl **162** *SC* **162.11.7.1** *P* **160** *L* **42** # 40

Ben Artsi, Liav Marvell

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

Cable assembly "include PCB" section lacks the representation of host board discontinuities as were presented in benartsi_3ck_01a_0919.pdf slide #6

SuggestedRemedy

Update section 162.11.7.1 to accommodate the "include PCB" representation as described in benartsi_3ck_01a_0919.pdf slide #6 e.g. add two capacitive discontinuities and set their values to 19fF and 29fF. Update the trace parameters according to the supplied in the slide

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement suggested remedy with editorial license.

Cl **162** *SC* **162.11.7.1** *P* **160** *L* **48** # 10017

Mellitz, Richard Samtec

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

[Comment resubmitted from Draft 1.0. Subcl. 162.11.7.1 - Pg 153 - ln 28]

add {new table for 93A transmission line with data from slide 8 of benartsi_3ck_01a_0719.

SuggestedRemedy

gamma0, a1, a2 = [0 3.8206e-04 9.5909e-05]; tau=5.790E-03 ns/mm

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement suggested remedy with editorial license.

Cl **162** *SC* **162.11.7.1** *P* **160** *L* **48** # 10016

Mellitz, Richard Samtec

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

[Comment resubmitted from Draft 1.0. Subcl. 162.11.7.1 - Pg 153 - ln 28]

Fill in Zp TBD's with data from slide 8 of benartsi_3ck_01a_0719.

SuggestedRemedy

Change Line 28ff to Equation (93A-13) and Equation (93A-14) using zp = 110.3 mm in length and the parameter values given in {new table}, with the exception that Zc is 100 O, representing an insertion loss of 4.33 dB at 26.56 GHz on each PCB

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement suggested remedy with editorial license.

Cl **162** *SC* **162.11.7.1.2** *P* **161** *L* **19** # 10018

Mellitz, Richard Samtec

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

[Comment resubmitted from Draft 1.0. Subcl. 162.11.7.1.2 - Pg 153 - ln 51]

Fill in TBD's with data from slide 8 of benartsi_3ck_01a_0719.

SuggestedRemedy

use same data as for signal path

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement comment and suggested remedy with editorial license.

Cl **163** *SC* **163.9.1** *P* **175** *L* **26** # 30

Ben Artsi, Liav Marvell

Comment Type **T** *Comment Status* **D** *TPO extrapolation*

TP0a has been shown to be extremely difficult to be used as a point to measure Specified Tx compliance parameters.

SuggestedRemedy

Measurement will still be done at TP0a, but Tx is to be specified at TP0.
A new annex is to be defined to specify method of extrapolating/simulating each of the Tx parameters from TP0 to TP0a.
A presentation will be provided.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **163** *SC* **163.9.1** *P* **175** *L* **44** # 68

Mellitz, Richard Samtec

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

Vfmin should align with Av in COM table 163-10 since Np=200

SuggestedRemedy

Replace 0.4 with 0.413

Response *Response Status* **C**

REJECT.

There is no consensus to make the proposed change at this time.

Cl **163** *SC* **163.9.1.2** *P* **176** *L* **47** # 31

Ben Artsi, Liav Marvell

Comment Type **T** *Comment Status* **D** *TP0A TF*

A reference TP0 - TP0a test fixture is specified. It is also indicated that the difference between the test fixture and the actual implementation is to be taken into account in the measurement. It is not stated how to do this adjustment.

SuggestedRemedy

Specify an achievable range for the TP0 - TP0a test fixture: Loss @ ~26GHz <6dB ; ILD ; ERL? A presentation is to be provided with the actual suggestion

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **163** *SC* **163.9.2.2** *P* **179** *L* **21** # 32

Ben Artsi, Liav Marvell

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

The Rx test fixture is embedded as part of the interconnect used for the interference tolerance test. Thus, there is no reason to limit the loss and behavior so tightly as done on line 21. Doing so will not enable connecting more than very few (if any!) Rx lanes to TP5a for testing.

SuggestedRemedy

Recommend increasing loss limits to 4dB at 26.56GHz

Response *Response Status* **C**

REJECT.

No evidence is provided that the impact on TP5a measurement will not be adversely affected.

Although there is some support expressed for the proposal, further analysis and consensus building is encouraged. There is no consensus to make the proposed change at this time.

Cl **163** *SC* **163.10** *P* **183** *L* **13** # 139

Dawe, Piers Mellanox

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

Slide 6 of heck_3ck_01_0919 shows that the DFE taps are 2 and 3 are always strongly positive, and no taps strongly negative, yet the draft would allow such untypical/hypothetical channels that a real receiver need not, and maybe can't, cope with.
kasapi_3ck_01_1119 slide 7 shows the first tap also.
We need sensible minimum tap limits.

SuggestedRemedy

Add minimum tap weight limits:
Tap 1: min +0.3
Tap 2: min +0.05
Remembering that a tap weight limit isn't a hard pass-fail limit; channels can go outside it but pay a (very small, for one or two small excursions) increase in COM for the excess ISI noise that they cause:
All other taps: min -0.04 (looser than for CR).
Turn the existing "Normalized DFE coefficient magnitude limit"s into "Normalized DFE coefficient limit"s.
Update definition of COM in 93A.1.

Response *Response Status* **C**

REJECT.

Although there is some support expressed for the proposal, there is concern that the limits may be too restrictive for low-loss channels. Further analysis and consensus building is encouraged. There is no consensus to make the proposed change at this time.