

IEEE P802.3ck D1.2 100/200/400 Gb/s Electrical Interfaces Task Force 3rd Task Force review comments

CI 120F SC 120F.3.1 P 205 L 21 # 166

Ran, Adeel Intel
 Comment Type T Comment Status A
 The reference for linear fit pulse peak is 120D.3.1.4, which uses Nv=13. This is inadequate for the higher loss in this project.

Also, 120D.3.1.4 includes control of the 3-tap equalizer, but here we have 5 taps.
 SuggestedRemedy

Change reference for linear fit pulse peak to 162.9.3.1.2.
 Response Response Status C
 ACCEPT.

CI 120F SC 120F.3.2.3 P 208 L 54 # 11078

Healey, Adam Broadcom Inc.
 Comment Type T Comment Status A
 [Comment resubmitted from Draft 1.1. 120F.3.2.3, P206, L48]
 I believe the intent is for the return loss of the test setup to have "test fixture" grade performance.

SuggestedRemedy
 In item b), change "Equation (TBD)" to "Equation (163-2)" (Test fixture reference return loss limit).

Response Response Status C
 ACCEPT IN PRINCIPLE.

Comment #170 proposes using ERL in 120F.4.3.
 Comment #11078 proposes using DRL in 163.9.1.2 (KR test fixture specification).
 There was general agreement that the return loss should be representation of test equipment grade in order to ensure reproducible measurements.
 Replace Equation (TBD) and related text with "the return loss specifications in 163.9.1.2". Implement with editorial license.

CI 120F SC 120F.3.2.3 P 209 L 9 # 11156

Li, Mike Intel
 Comment Type TR Comment Status R
 [Comment resubmitted from Draft 1.1. 120F.3.2.3, P207, L5]

Np TBD
 SuggestedRemedy
 Change it to 18 (length of TX pre-taps + RX DFE taps+main tap)

Response Response Status C
 REJECT.

There is no consensus to implement the suggested remedy at this time.

CI 120F SC 120F.3.2.3 P 209 L 39 # 171

Ran, Adeel Intel
 Comment Type T Comment Status A
 Addressing minimum RSS_DFE4 which is TBD.

The corresponding parameter in Table 163-8 is 0.05. This is a very mild requirement when the reference receiver in COM has large b_max. There is no reason not to use this value here too.

SuggestedRemedy
 Change TBD to 0.05 twice.

Response Response Status C
 ACCEPT.

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Cl **120G** SC **120G.5.2** P **236** L **9** # **231**

Ran, Adeo Intel

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

This subclause specifies measurement of "eye opening parameters eye height, eye width, and vertical eye closure".

Item e here:

"e) Compute the receiver input signal $y_r(k)$ by applying the effect of the DFE to $y_2(k)$ using the sampling phase t_s "

May cause ambiguity in the resulting eye diagram, which can yield different EW and ESMW results.

The reason is that it does not fully specify how the sampling phase t_s is used. To create a "nice" eye diagram, the DFE feedback is typically applied after some delay relative to t_s . The time when the DFE feedback is applied will affect the eye shape, width and ESMW (though not the eye height at t_s , which is maximized by the DFE coefficients).

Note that this delay is not necessarily what a real receiver will have, and the eye may not correspond to the performance of real receivers.

In another comment I suggest to remove the ESMW specification. Following the statements above, The EW specification may also be worth removing. EH (which does not depend on the DFE feedback timing) should be enough.

Without EW, jitter measurement and calibration should be done using other means. Jitter injected in host stressed input test is already calibrated using C2C methods. Jitter for host and module outputs can be specified using C2C methods too.

Suggested Remedy

Remove all EW specifications and change the text in this subclause to omit EW.

(Alternatively, if ESMW and/or EW are retained, then the application of the DFE feedback should be specified explicitly. I would suggest specifying that the DFE feedback effect starts $1/2$ UI after t_s .)

Add jitter specifications J4U, JRMS, and EOJ, for host output and module output, using references to 120F.3.1 (same values as in Table 120F-1).

Response Response Status **C**

REJECT.

Note that comment #173 proposes to drop ESMW as well.

A straw poll taken at the July 24 ad hoc meeting indicated strong support to remove the ESMW and EW parameters.

Strawpoll #7 (decision)

I support removing the EW and ESMW parameters and replacing with jitter specifications as proposed in the suggested remedy of comment #231.

Yes: 11

No: 22

Although there was interest expressed in removing the EW/ESMW parameters, an appropriate alternate constraint may be necessary. Further work and consensus building is necessary.

There is no consensus to implement the suggested remedy.