# Test Fixture Delay (Comment #110/#111/#112/#113)

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IEEE P802.3ck Task Force Interim Meeting

July, 2020

# What are these comments about?

*Cl* **120G** *SC* **120G.3.1.3** *P* **222** *L* **38** # 110

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

"The beginning of the host connector" is not clear.

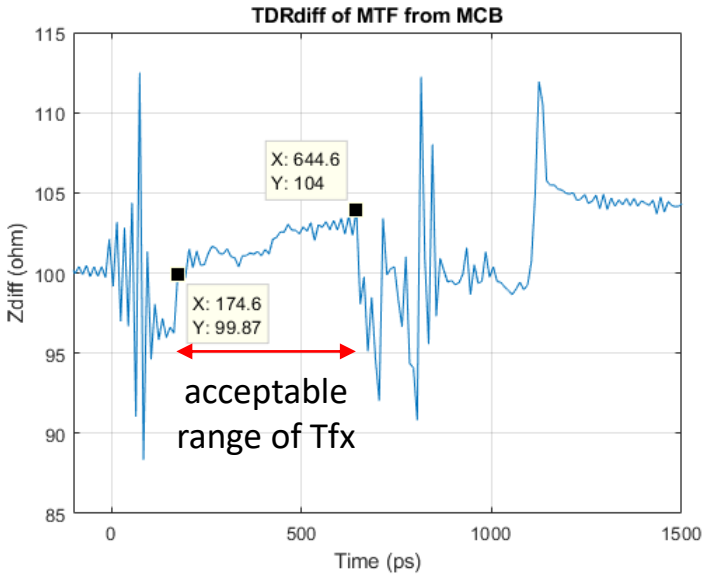
**120G.3.1.3 Host output effective return loss (ERL)**

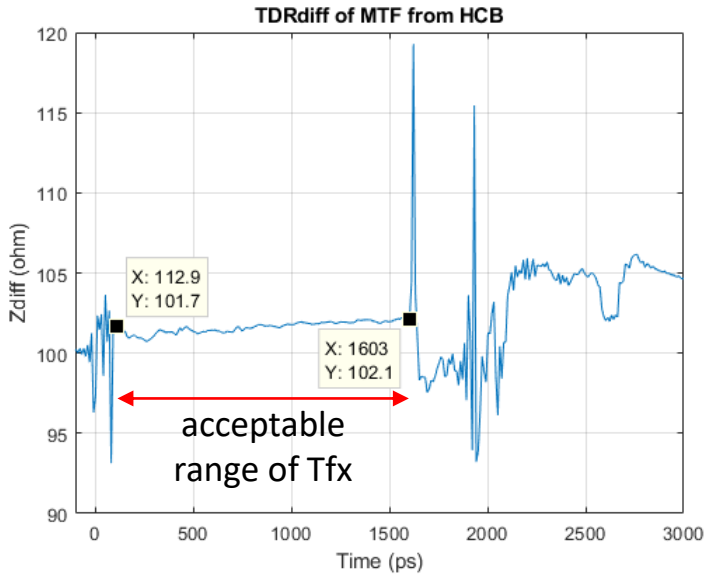
ERL of the host output at TP1a is computed using the procedure in 93A.5 with the values in Table 120G–2. Parameters that do not appear in Table 120G–2 take values from Table TBD. The value of $T_{fx}$ is twice the delay from the measurement point TP1a to the beginning of the host connector.

Where is “the beginning of the host connector”?

# Tfx value vs Differential TDR of MCB and HCB

- Below are differential TDR of OSFP Mated Test Fixture transformed from measured S-parameters contributed by Sam Kocsis (Amphenol) to Task Force (kocsis_3ck_02_0719_MTFosfp.zip).
- The optimal Tfx value may be about 640ps (MCB, left) or 1600ps (HCB, right), close to the end of flat impedance range. However, this point is difficult to define without ambiguity.
- Since Nbx is 0 in Annex 120G and Clause 162, optimization of Tfx is not important. Any Tfx value is acceptable between 175ps and 640ps (MCB, left) or between 113ps and 1600ps (HCB, right), because ERL will be similar for any Tfx value in this range of flat impedance.
- 200ps seems enough for various possible MCB and HCB designs to mask the initial impedance discontinuity due to coax connector etc. A fixed Tfx value is fair and eliminates ambiguity.



# Revised Suggested Remedies

- #110 (120G.3.1.3, P222, L38)

Change the text “The value of Tfx is twice the delay from the measurement point TP1a to the beginning of the host connector.” to
“The value of Tfx is 0.2 ns representing twice the transmission line delay which sufficiently mitigates the test point and transmission line return loss.”

- #111 (120G.3.2.2, P226, L32)

Change the text “The value of Tfx is twice the delay from the measurement point TP4 to the beginning of the MCB connector.” to
“The value of Tfx is 0.2 ns representing twice the transmission line delay which sufficiently mitigates the test point and transmission line return loss.”

- #112 (120G.3.3.1, P227, L31)

Change the text “The value of Tfx is twice the delay from the measurement point TP4a to the beginning of the host connector.” to
“The value of Tfx is 0.2 ns representing twice the transmission line delay which sufficiently mitigates the test point and transmission line return loss.”

- #113 (120G.3.4.2, P232, L47)

Change the text “The value of Tfx is twice the delay from the measurement point TP1 to the beginning of the MCB connector.” to
“The value of Tfx is 0.2 ns representing twice the transmission line delay which sufficiently mitigates the test point and transmission line return loss.”

# Additional Possible Modifications to Clause 162

- Clause 162.9.3.2, P152, L38

Change the text “The value of Tfx is twice the delay from TP2 to the beginning of the TP2 test fixture MDI connector being used.” to
“The value of Tfx is 0.2 ns representing twice the transmission line delay which sufficiently mitigates the test point and transmission line return loss.”

- Clause 162.9.4.5, P157, L7

Change the text “The value of Tfx is twice the delay from TP3 to the beginning of the TP3 test fixture MDI connector.” to
“The value of Tfx is 0.2 ns representing twice the transmission line delay which sufficiently mitigates the test point and transmission line return loss.”

- Clause 162.11.3, P158, L39

Change the text “The value of Tfx is twice the delay from TP1 or TP4 to the connector of the specific cable assembly test fixture.” to
“The value of Tfx is 0.2 ns representing twice the transmission line delay which sufficiently mitigates the test point and transmission line return loss.”