Host, module, and test fixture illustrations for Annex 176D

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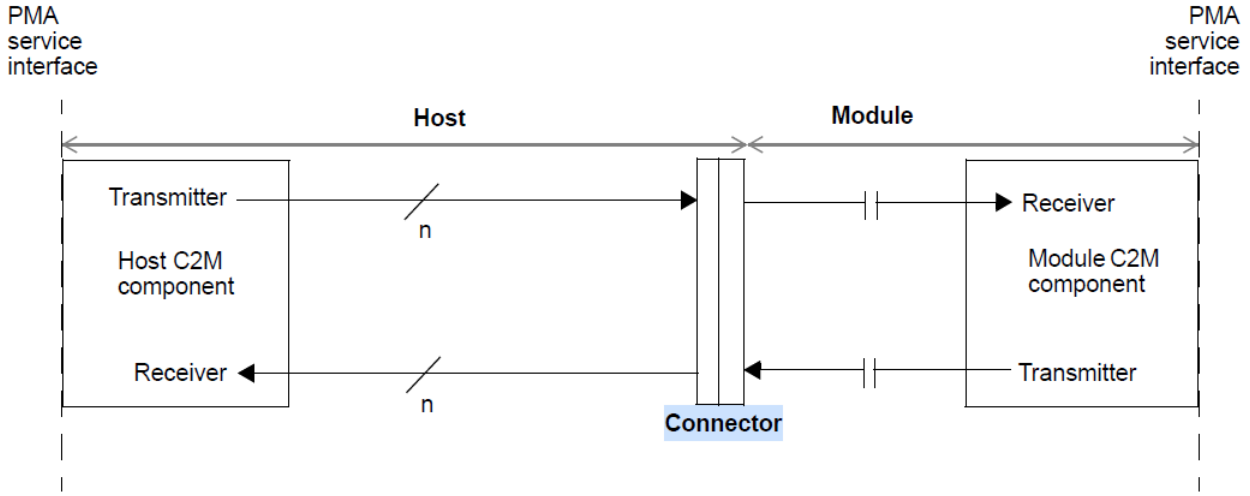
Supporters

Background

- During Working Group ballot there was a multitude of comments related to the illustrations of modules, hosts, text fixtures, especially on the “connector” label in multiple figures. The figures and notes went through multiple changes.
- Recently comment #57 against D2.3 noted inconsistency between figures, and lack of clarity of what the vertical line in the “connector” represents.



NOTE—The number of lanes n is 1 for 200GAUI-1, 2 for 400GAUI-2, 4 for 800 GAUI-4, and 8 for 1.6TAUI-8.

Figure 176D–2—200 Gb/s per lane AUI-C2M link diagram

Background

- Comment #57 was rejected due to lack of consensus (and no desire to make changes in D2.4)
- However, it was noted that “the figures addressed in the comment, and similar ones in the draft, could be improved in various ways”.
- As editor of annex 176D, I took action to create improved figures.

Points to think about

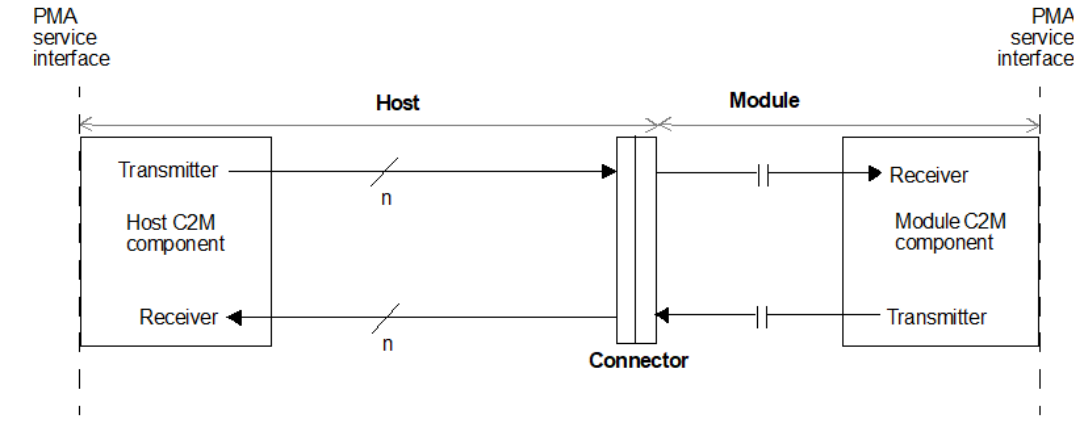
- The word “connector” is ambiguous
  - In dictionary.ieee.org - in IEEE Std 1680.1-2018 as "An electrical or mechanical coupling device employed to connect one element with those of another element"
  - In SFF-TA-1045 (pertinent for this annex): "Each half of an interface that, when joined together, establish electrical contact and mechanical retention between two components. In this specification, the term connector does not apply to any specific gender; it is used to describe the receptacle, the plug or the card edge, or the union of receptacle to plug or card edge. Other common terms include: connector interface, mating interface, and separable interface.”
- Outside of figures, it only appears in the Annex once – in 176D.8.3 (ERL)
  - “…the first discontinuity of the AUI-C2M connector“
- Unclear terminology should be minimized

Points to think about

- Annex 176D does not specify any “connector”…
  - But it refers to Annex 179B for test fixtures, which are associated with “MDI connectors” – implicitly this means the same connectors.
  - In practice, hosts use the MDI receptacles of Annex 179C, and modules plug into them. There has been no discussion of other C2M connectivity in P802.3dj.
- The vertical line in the “connector” seems to represent the mating point, which is all we care about.
- The current figures are a mixture of block diagrams with electrical components and mechanical “hints”.
  - Many readers know how modules and hosts look like and how they connect – but the figures are far from being representative.
  - The proposed new figures are not mechanical drawings but should be more representative and clear.

Proposed modification – Figure 176D–2

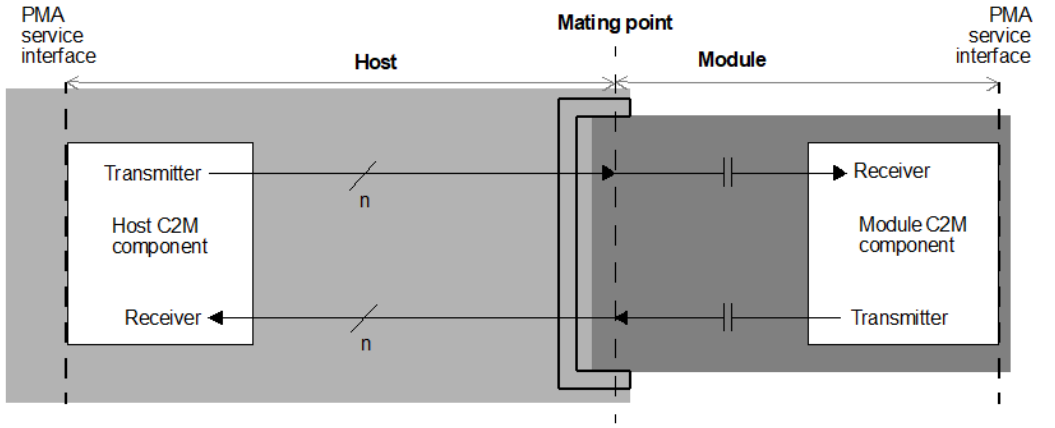
D3.0



NOTE—The number of lanes n is 1 for 200GAUI-1, 2 for 400GAUI-2, 4 for 800 GAUI-4, and 8 for 1.6TAUI-8.

Figure 176D–2—200 Gb/s per lane AUI-C2M link diagram

Proposed



NOTE 1—The number of lanes n is 1 for 200GAUI-1, 2 for 400GAUI-2, 4 for 800 GAUI-4, and 8 for 1.6TAUI-8.
NOTE 2—The host is depicted as having a receptacle into which the module is plugged. This is based on the MDI connectors specified in Annex 179C. Other connection methods may be used.

Figure 176D–2—200 Gb/s per lane AUI-C2M link diagram

New note points explicitly to Annex 179C

Proposed modification – Figure 176D–4

D3.0

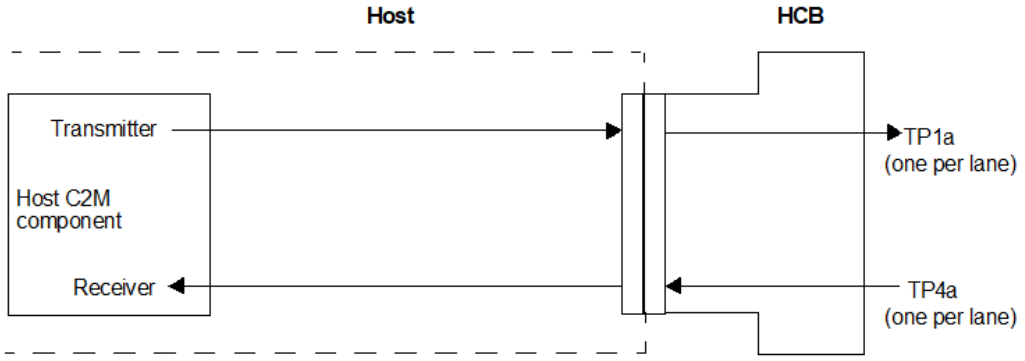


Figure 176D–4—Host compliance points

Proposed

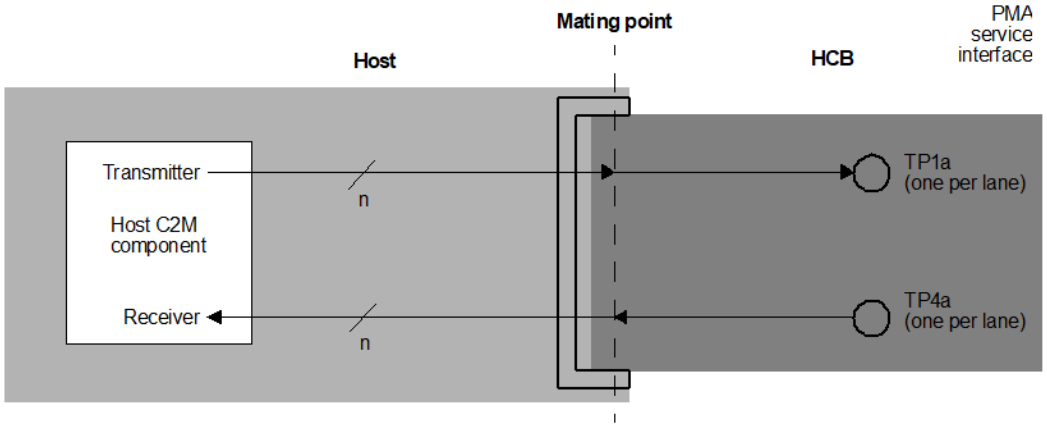


Figure 176D–4—Host compliance points

Proposed modification – Figure 176D–5

D3.0

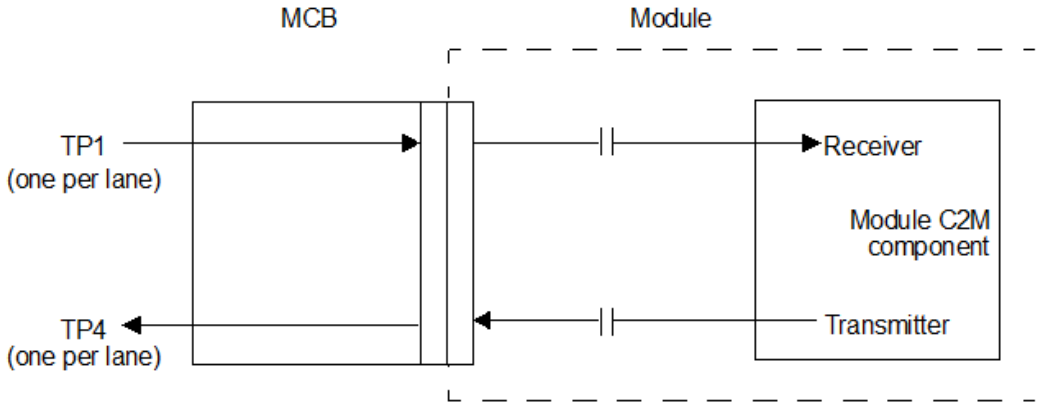


Figure 176D–5—Module compliance points

Proposed

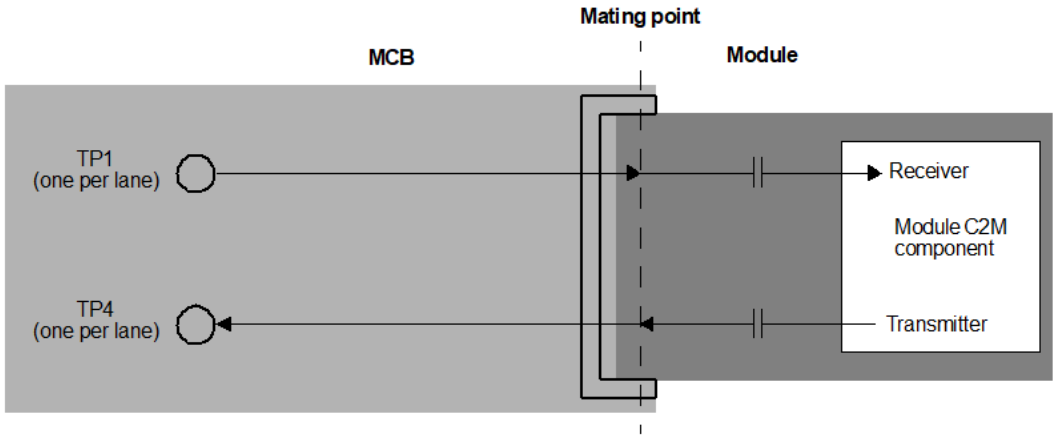
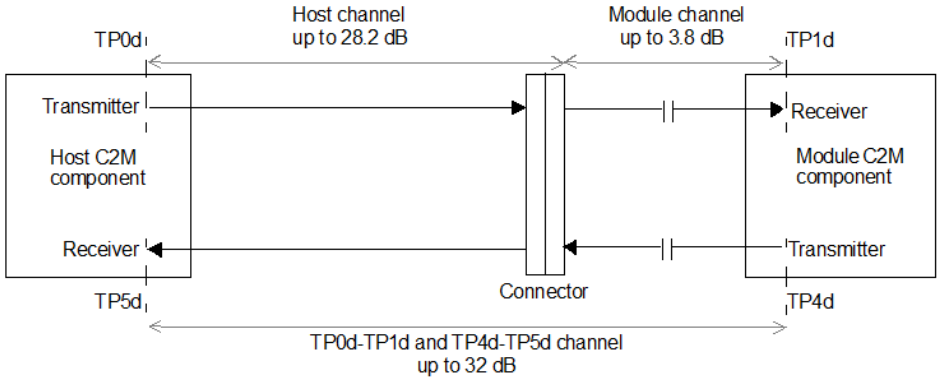


Figure 176D–5—Module compliance points

Proposed modification – Figure 176D–6

D3.0



NOTE—For loss budgeting purposes, the host channel loss is from TP0d to the center of the edge connector of the module.

Figure 176D–6—Reference insertion loss budget at 53.125 GHz

Proposed

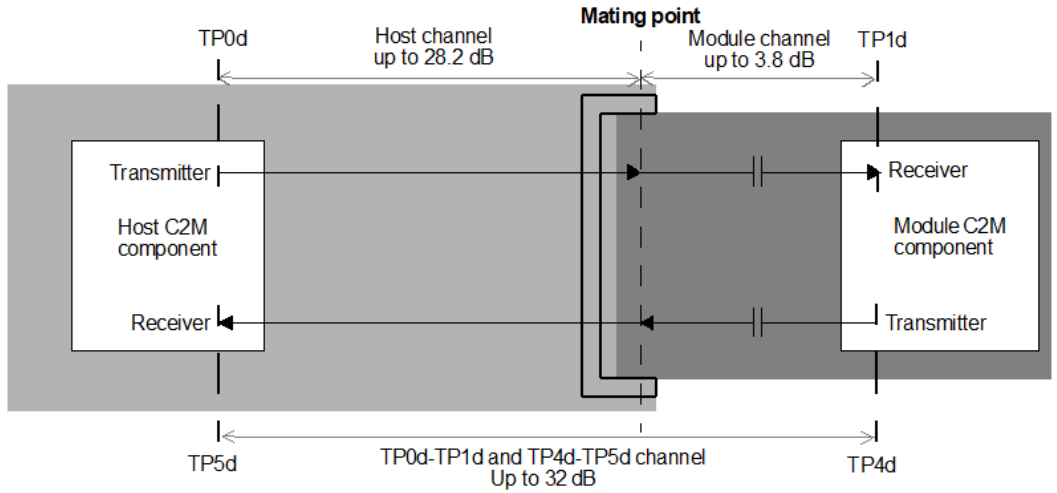


Figure 176D–7—Reference insertion loss budget at 53.125 GHz

The note in the existing figure is not needed anymore – it is evident in the new figure.

That’s all!

Questions?