
Channel loss budget considerations for 100 Gb/s per Lane Electrical Interfaces

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Scope

- Review channel loss budget elements and nomenclature to assist in developing consensus on channel loss budgets.

93A.1 Channel Operating Margin - IEEE 802.3by™-2016

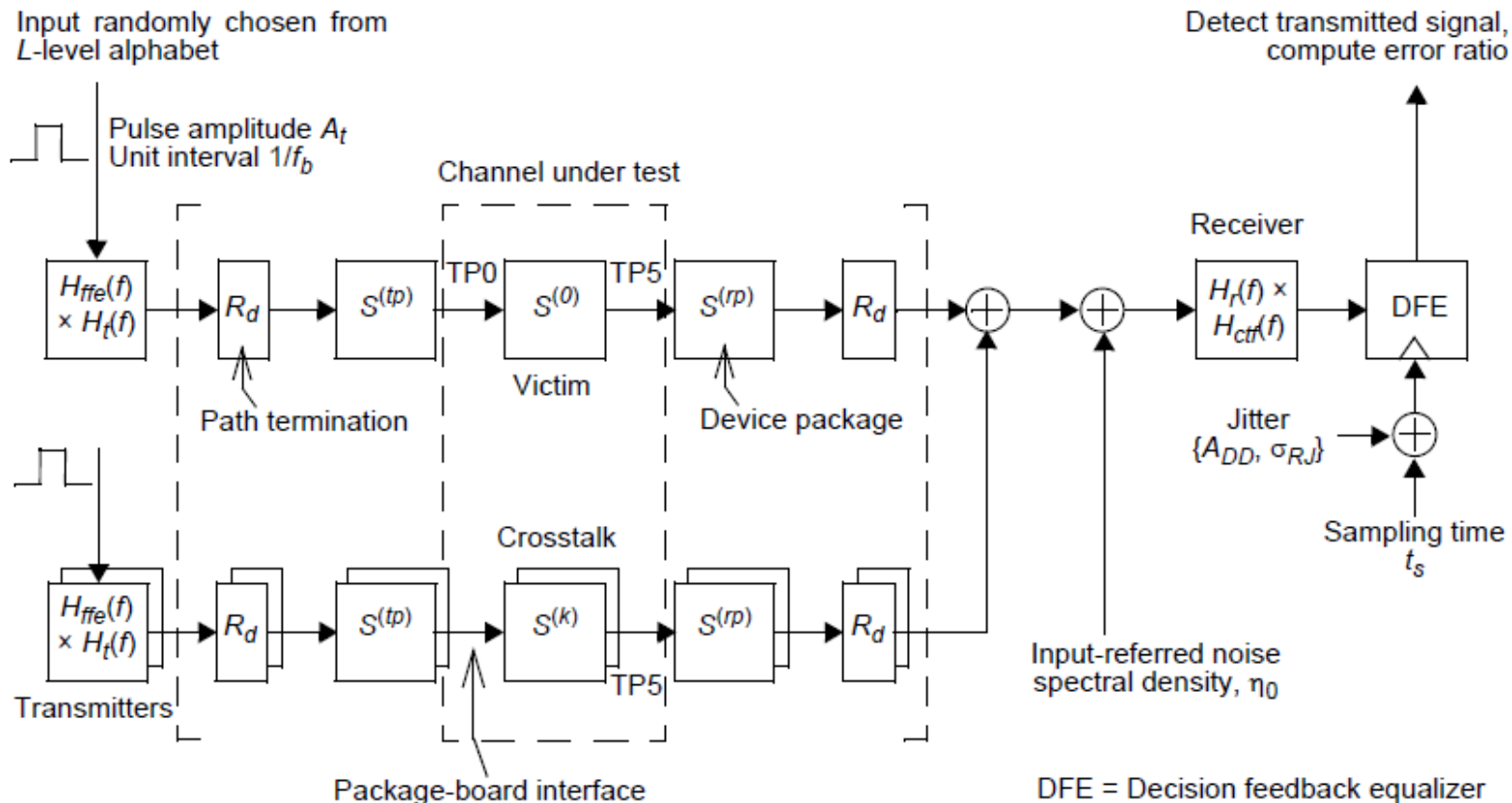
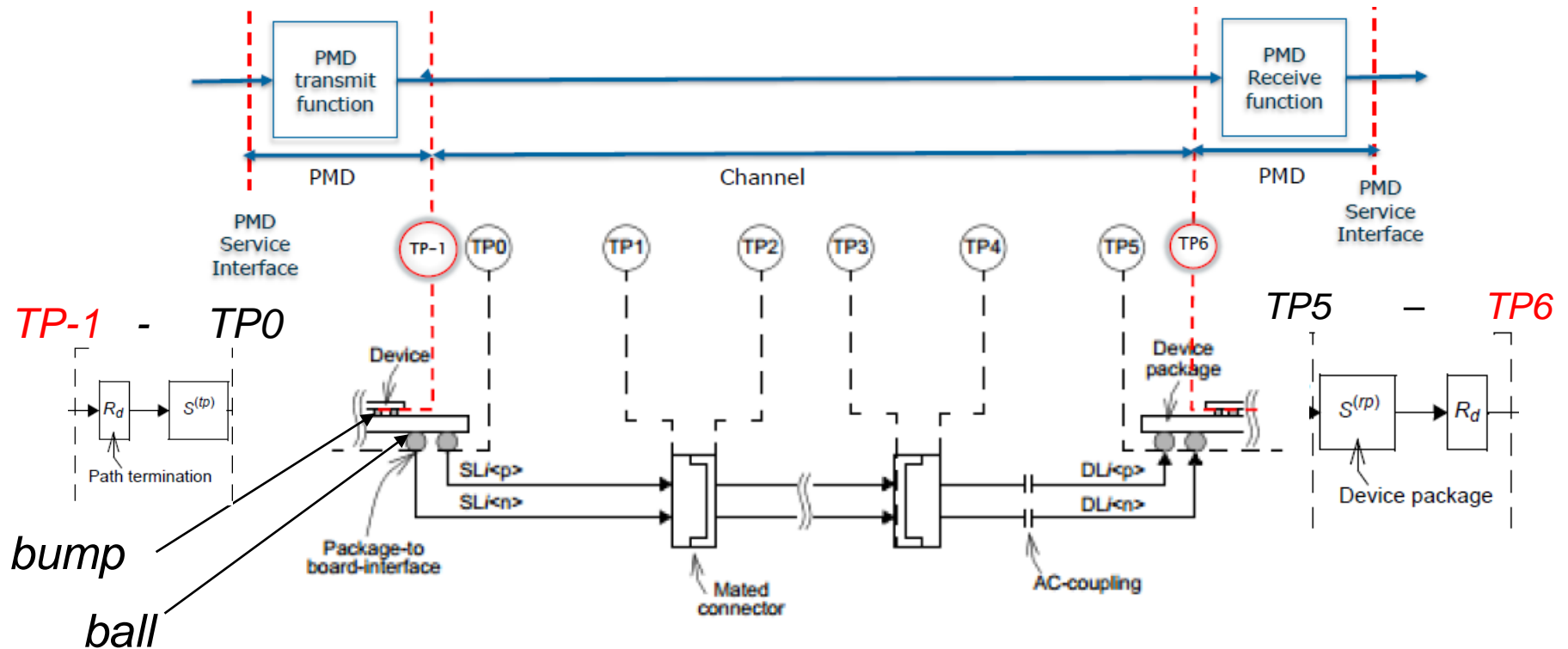


Figure 93A-1—COM reference model

Device package and path termination

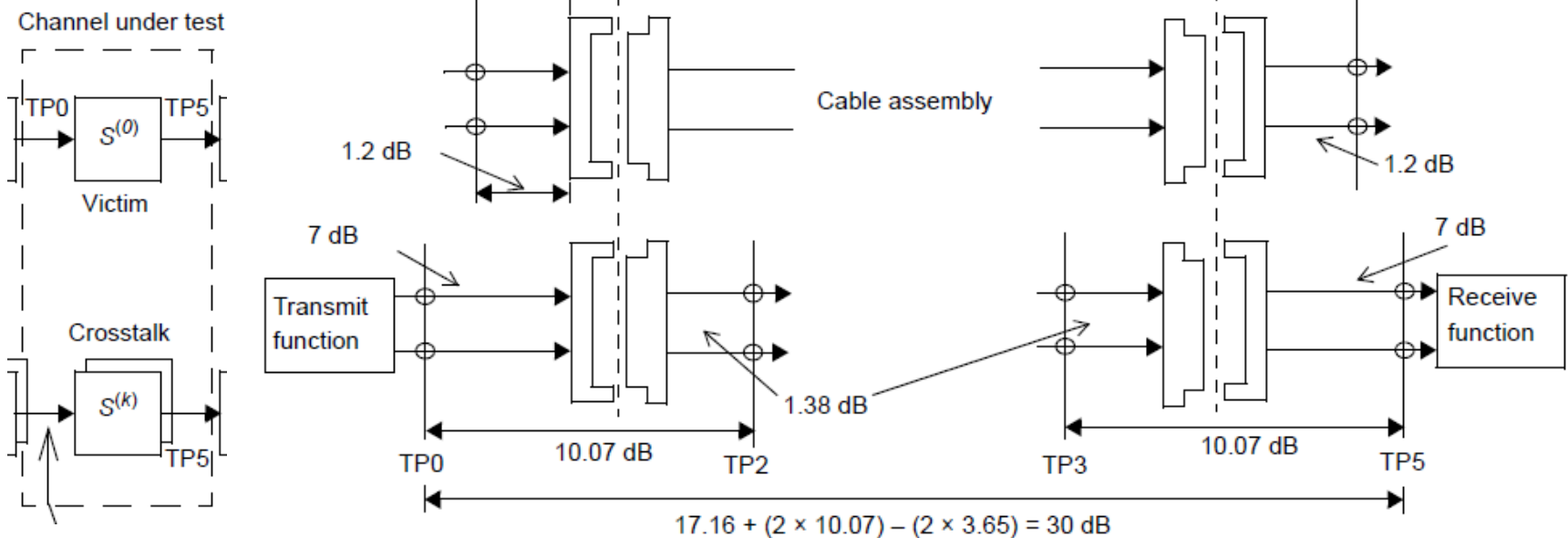


Source:

http://www.ieee802.org/3/cd/public/May16/mellitz_3cd_01_0516.pdf

Annex 136A - CR Channel

COM

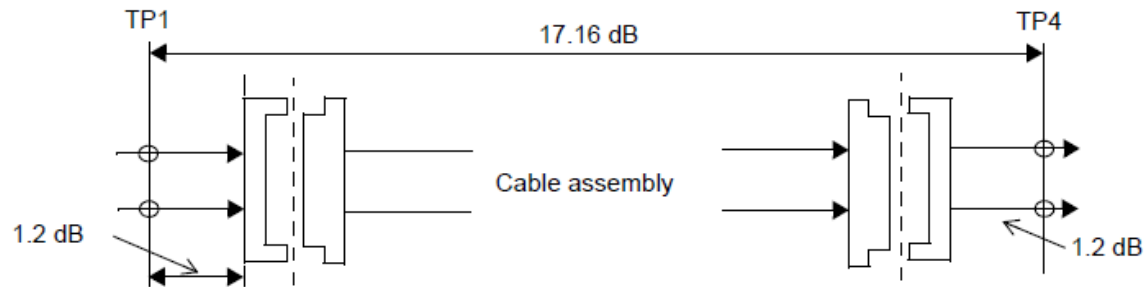


COM – Channel Under Test

Annex 136A - TP0 and TP5 test point parameters and channel characteristics for 50GBASE-CR, 100GBASE-CR2, and 200GBASE-CR4

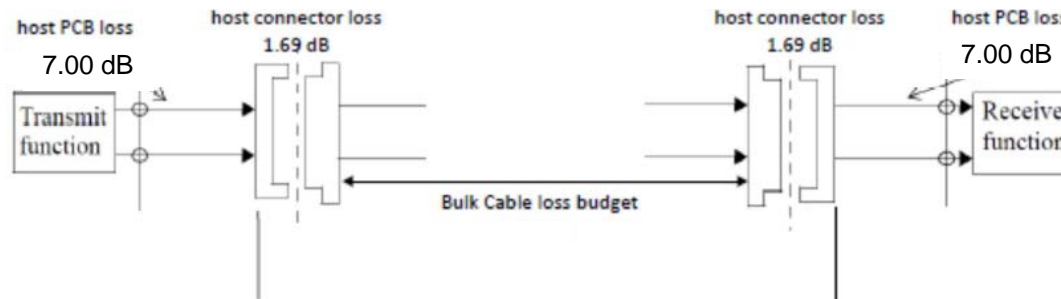
Cable assembly and Channel IL – 802.3cd

Cable assembly IL



Bulk cable assumed @ 13.28 GHz = Cable assembly IL - (2*1.20) + (2*1.07)

Channel IL



Channel IL (TP0-TP5) = Bulk cable IL assumed @ 13.28 GHz + (2*Host PCB IL) + (2*connector IL)

NOTE—The connector insertion loss is 1.07 dB for the mated test fixture. The host connector is allocated 0.62 dB of additional margin.

Summary

- Reviewed channel loss budget elements and nomenclature to assist in developing consensus on channel loss budget allocation.