

QSFP-DD 2m Cable Channels



Alex Haser
alex.haser@molex.com
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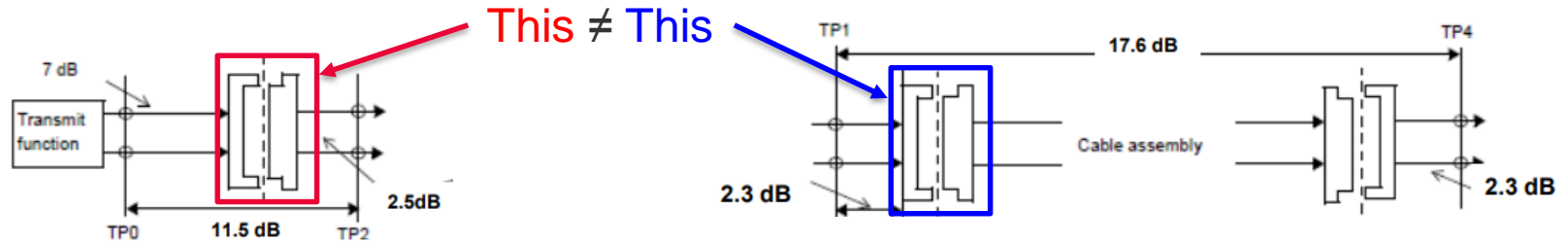
Overview:

- 112G Loss Budget
- 2m QSFP-DD Cable Simulation



Loss Budgets:

Missing Pieces in the Loss Budget:



- TP0 to TP2:

- Host + connector + HCB
 $7 \text{ dB} + 2 \text{ dB} + 2.5 \text{ dB} = 11.5 \text{ dB}$

Blue box $\approx 2.5 \text{ dB}$

- TP1 to TP4:

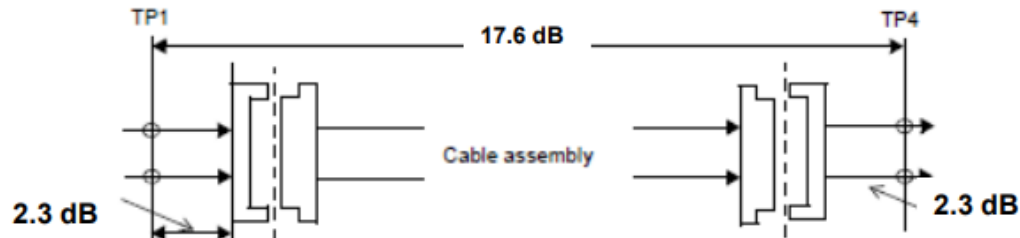
- $2 \times [\text{MCB} + (\text{connector} + \text{paddle card} + \text{wire termination})] + \text{cable}$
 $2 \times [2.3 \text{ dB} + (1.5 \text{ dB})] + 10 \text{ dB} = 17.6 \text{ dB}$

- Blue box = Red box + paddle card + wire termination $\neq 1.5 \text{ dB}$

- The loss budget for the blue box needs to be increased to be realistic

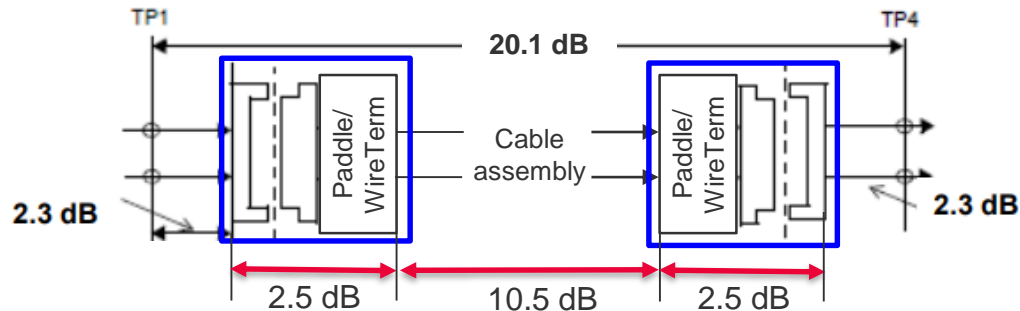
TP1 to TP4 Loss Budget:

Current budget:



Current proposed TP1 to TP4 budget: **17.6 dB**

Proposed budget:



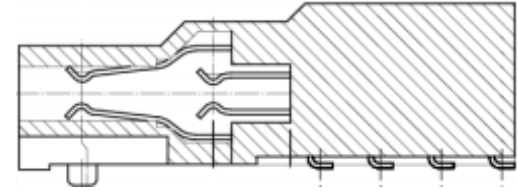
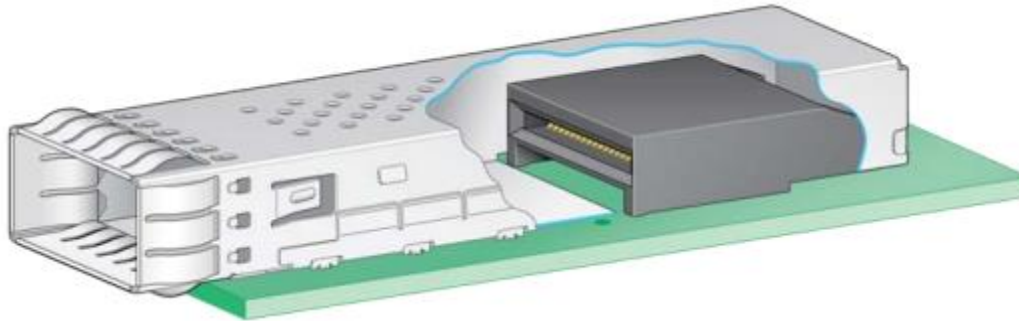
Revised TP1 to TP4 budget using a realistic “blue box” value: **20.1 dB**



2m QSFP-DD Cable Simulation

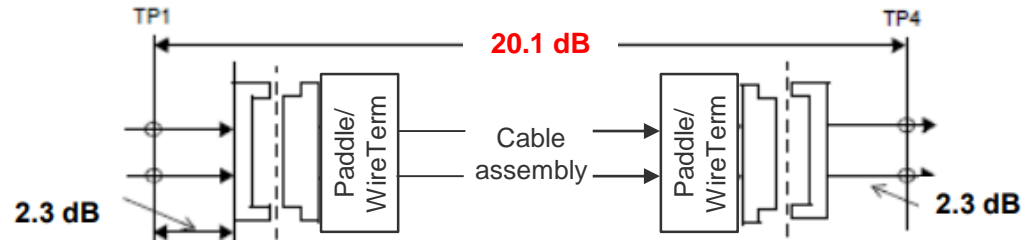
QSFP-DD Model

- Connector/ via model is only a partial model
 - Includes four pairs from the lower two rows
 - This model limits the crosstalk analysis (3 FEXT aggressors, no NEXT aggressors)

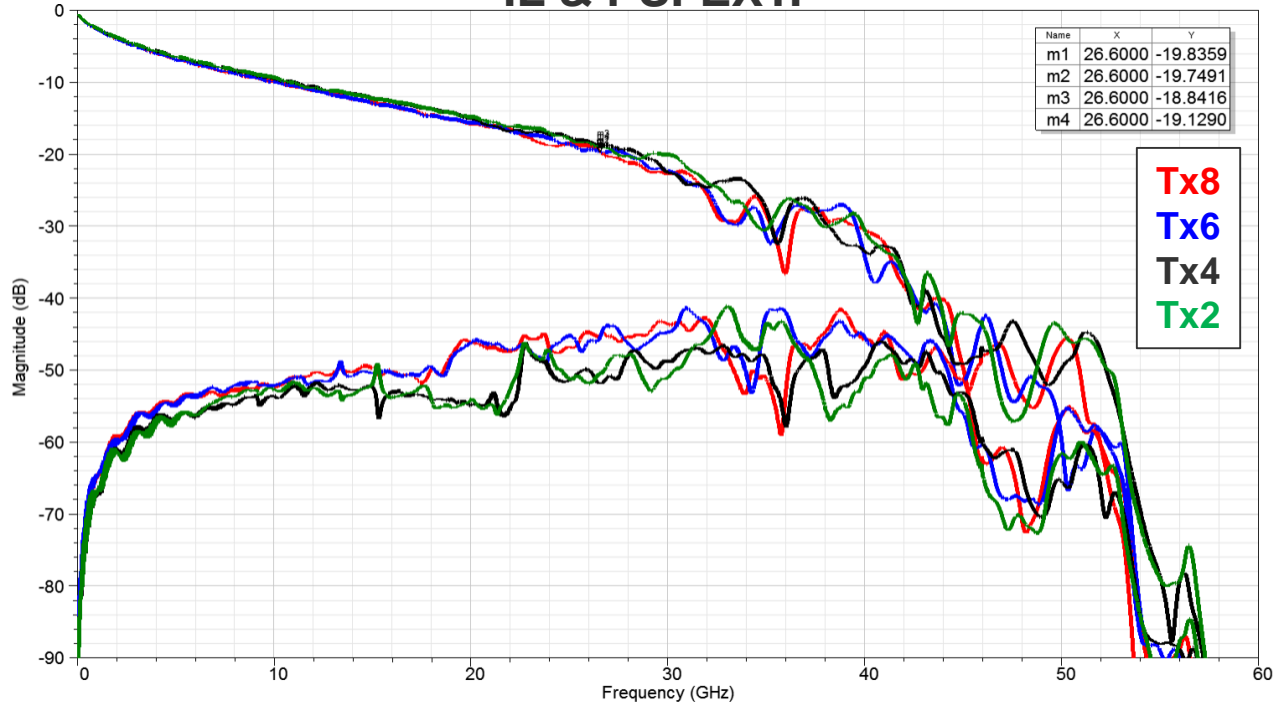


Bottom of connector

2m QSFP-DD Cable: TP1 to TP4



IL & PSFEXT:





Thank you

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