

ideasproductionservice

low-cost
hardmetric connector

high-speed

← **3.125 Gbps** →

hm 2.0
hardmetric

Don't waste your money on designated high-speed connectors!

Here's how you can get 3.125 Gbps out of hm2.0!

$$\begin{array}{l} \text{hm 2.0 connector}^* \\ + \text{FR4-PCB} \\ \hline = \mathbf{3.125 \text{ Gbps}} \end{array}$$

* IEC 61076-4-101

Designated high-speed connectors (e.g. as for ATCA) and low-loss PCB materials seem to be the solution to signal integrity and data rates beyond 1 Gbps. Even though the solution is rather expensive, there's no way around since the application requires the performance.

Really?

Do you know what you can get out of standard hm2.0 connectors and FR4 PCB base material?

This is how to get 3.125 Gbps on a differential pair through

- 2 standard hm2.0 connector pairs
- 2 standard FR4 cards, thickness 1.6 mm, trace length 115 mm
- 1 standard FR4 backplane, thickness 4.4 mm, trace length 400 mm

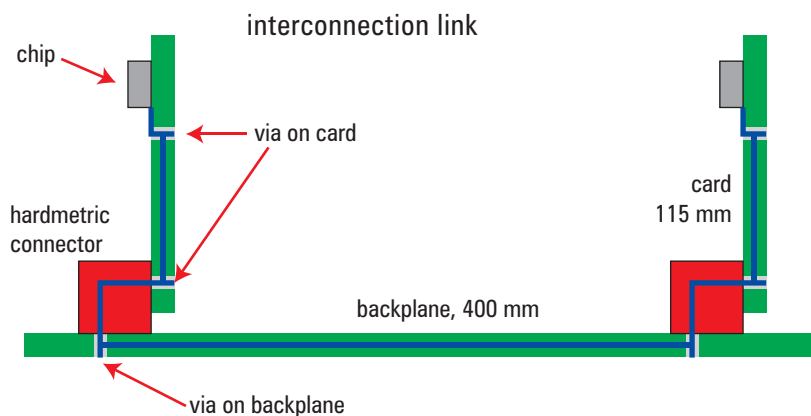
Just by taking care of

- connector noise
- stub effect
- skin effect & dielectric losses

during the design of the application.

Along with the methods described, you will find measurements performed on real life hardware in order to prove the theory.

Moreover an economical comparison between hm2.0 and designated high-speed connectors is provided.



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