

The Molex logo is displayed in a bold, red, lowercase sans-serif font. A registered trademark symbol (®) is located at the top right of the word. The logo is positioned in the upper right quadrant of the slide, set against a background of blue light rays and a world map.

molex[®]

A light gray silhouette of a world map is centered in the lower half of the slide. The map shows the outlines of continents and is partially overlaid by the text and the blue light effects from the top left.

**CAUI4 and OIF CEI-28G-VSR
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Can we leverage the OIF-28G-VSR specification for CAUI4?



- Review of system level requirements
- Time to market
- Possible module counts supported
- What to do if we need more distance

We have common needs:

VSR requirements:

- Support serial baud rates (fb) within the range from *19.60 Gsym/s to 28.05 Gsym/s as specified for the device using NRZ coding. Note that implementation of specific protocols will define the operating baud rate without affecting CEI compliance.*
- •Capable of driving up to a minimum of *100mm of host PCB trace plus one connector and a minimum of 50mm of module PCB trace*
- •Capable of achieving Bit Error Ratio of 10-15 or better per lane
- •Shall support AC-coupled operation.
- •Shall allow multi-lanes (1 to n).
- •Shall support hot plug.
- •The IA will document the constraints of the chip-to-module application(s) used to derive the channel model specifications
- •The IA shall define a compliance test methodology including compliance test boards.



VSR is a short time to market solution



- **OIF press release Aug 29, 2012:**
- **OIF is hosting a demonstration of multi-vendor operation of the draft CEI-28G-VSR implementation agreement at ECOC 2012.**
- **‘This demonstration of CEI-28G-VSR shows the ability to reach 100G for next generation small form factor modules’ said Ed Frylan of Semtech and the OIF PLL Interoperability working group chair.**

7 companies participated

OIF VSR solves the needs of optical module connections



- Supports 8 modules with 4 in traces
 - QSFP
 - CFP4
- Note: Assumes stacked or belly to belly cages

Can we achieve longer distances if needed?



- Longer traces (8 in.) can be achieved with lower loss PCB materials (Megtron 6) and wider traces (6-8 mils)
- Additional attenuation (11-12dB) should be analyzed.
 - Needs to include effects of ILD, ICN etc.

VSR channel:

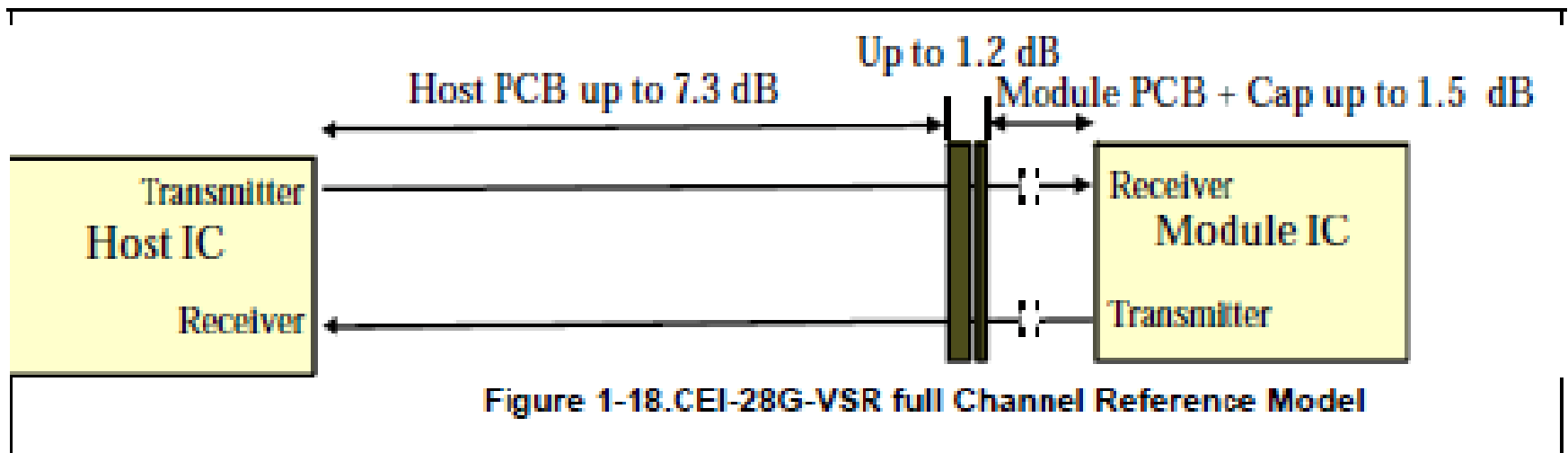


Figure 1-18.CEI-28G-VSR full Channel Reference Model