CDAUI16 vs CAUI4

Tom Palkert

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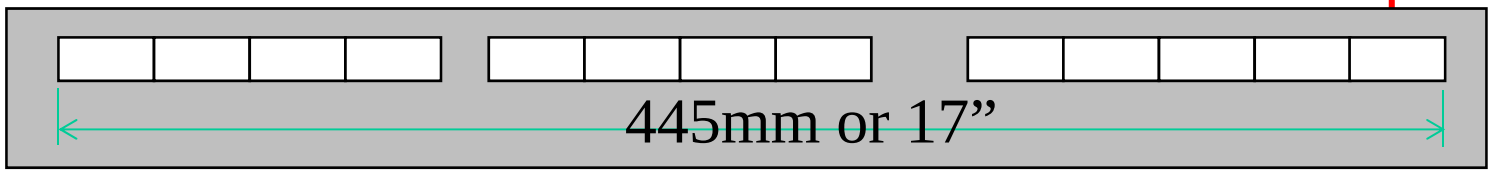
Can we just adopt CAUI4 specs for CDAUI16?

- Issues
  - Trace length
  - Crosstalk
  - Compliance boards
  - Improvement options:
    - FEC use for CDAUI16
    - Improve input sensitivity

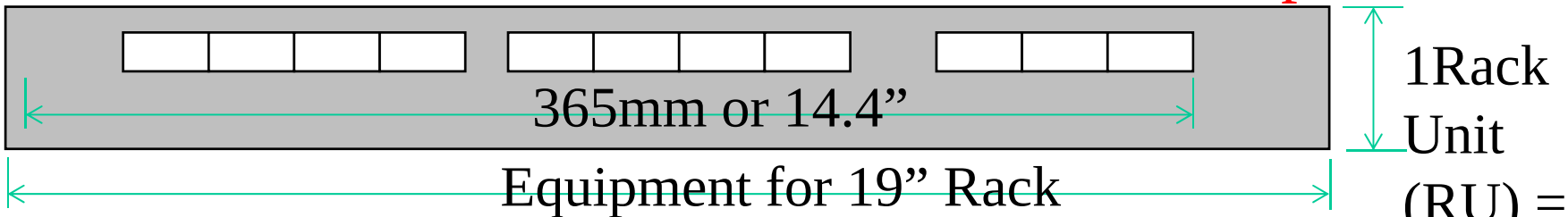
CDFP Line Card Capacity

- The CDFP supports up to 5.2Tb/s on a switch

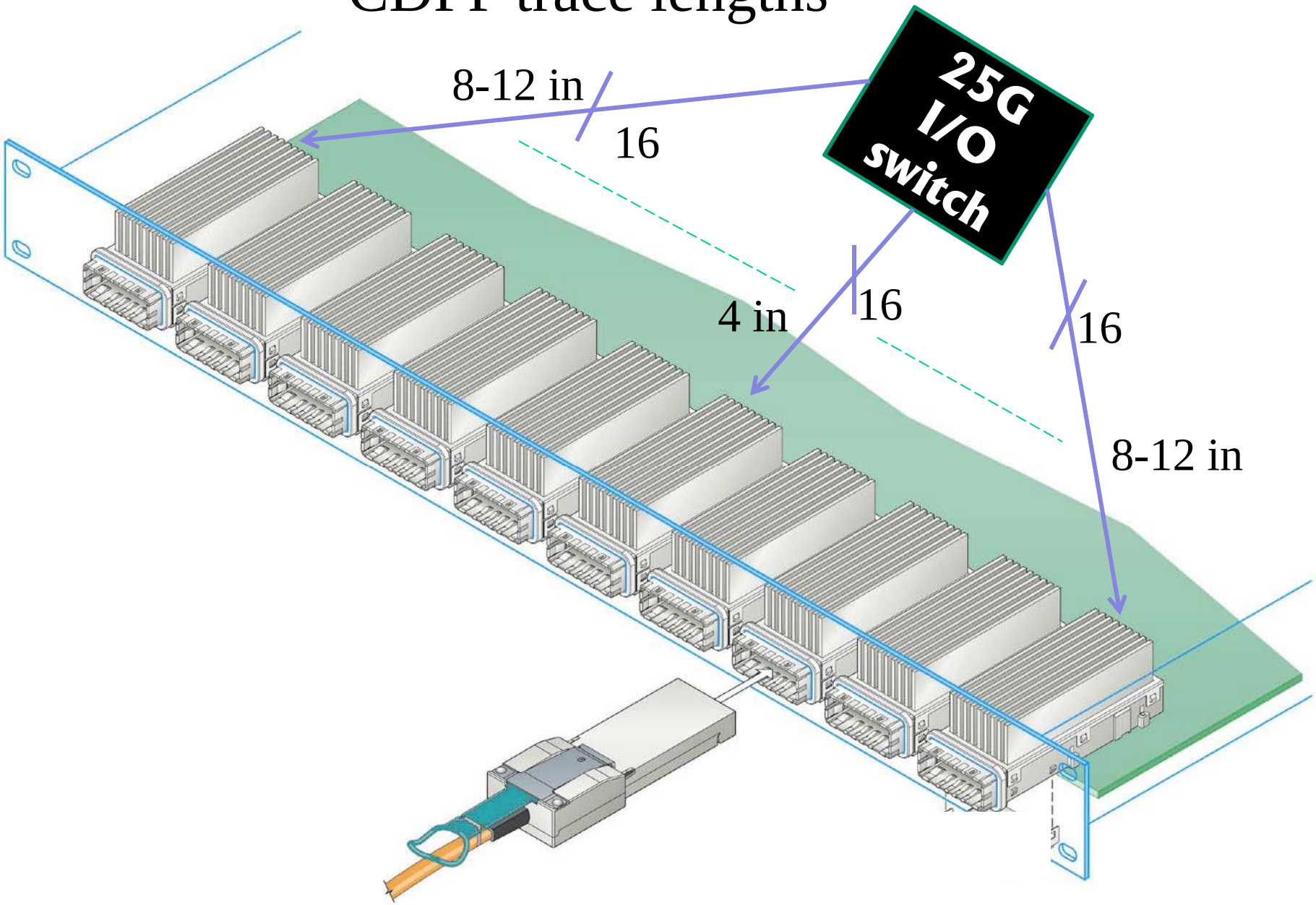
5.2 Tb/s = 13 CDFP in 445mm or 17” of faceplate



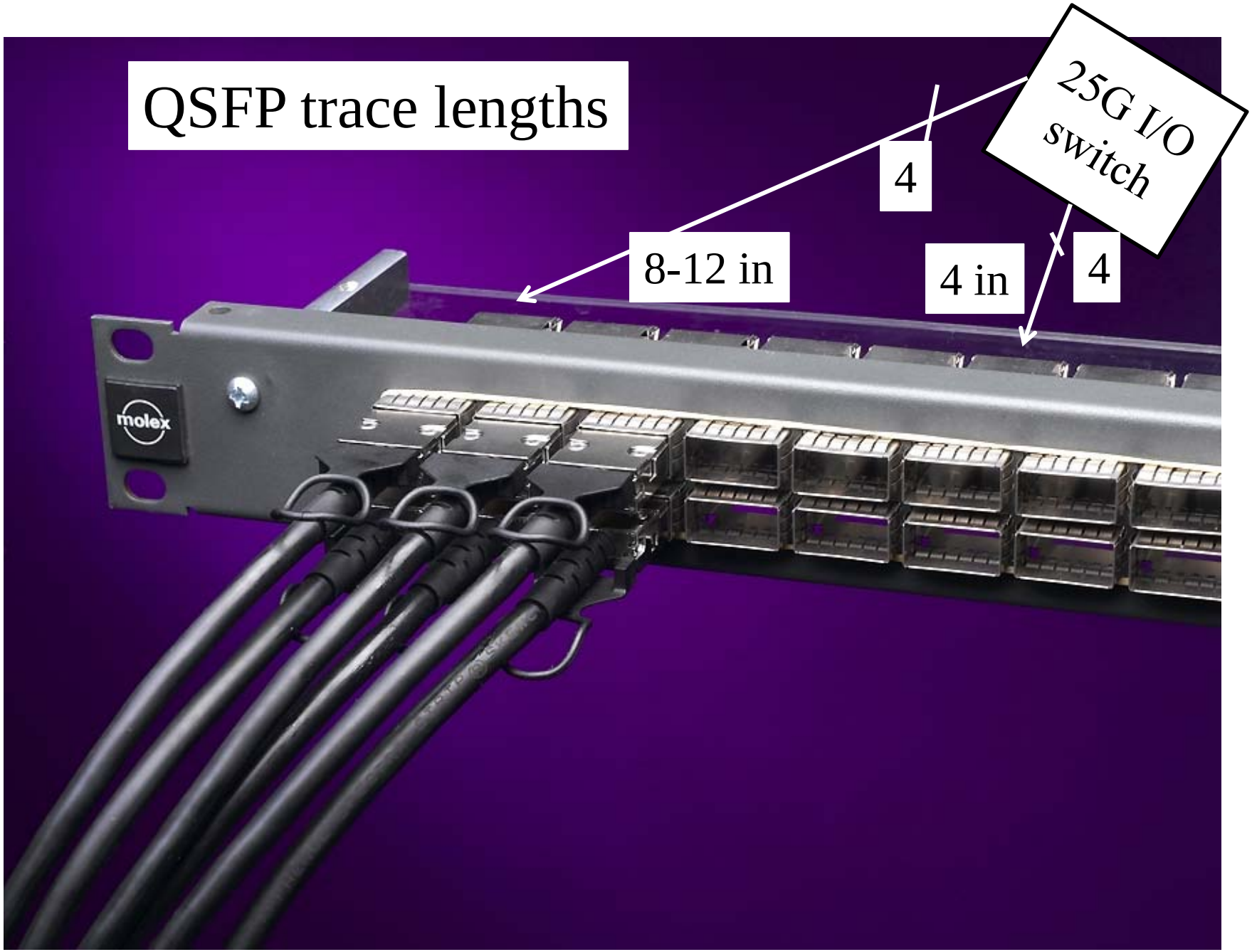
4.4 Tb/s = 11 CDFP in 365mm or 14.4” of faceplate



CDFP trace lengths



QSFP trace lengths



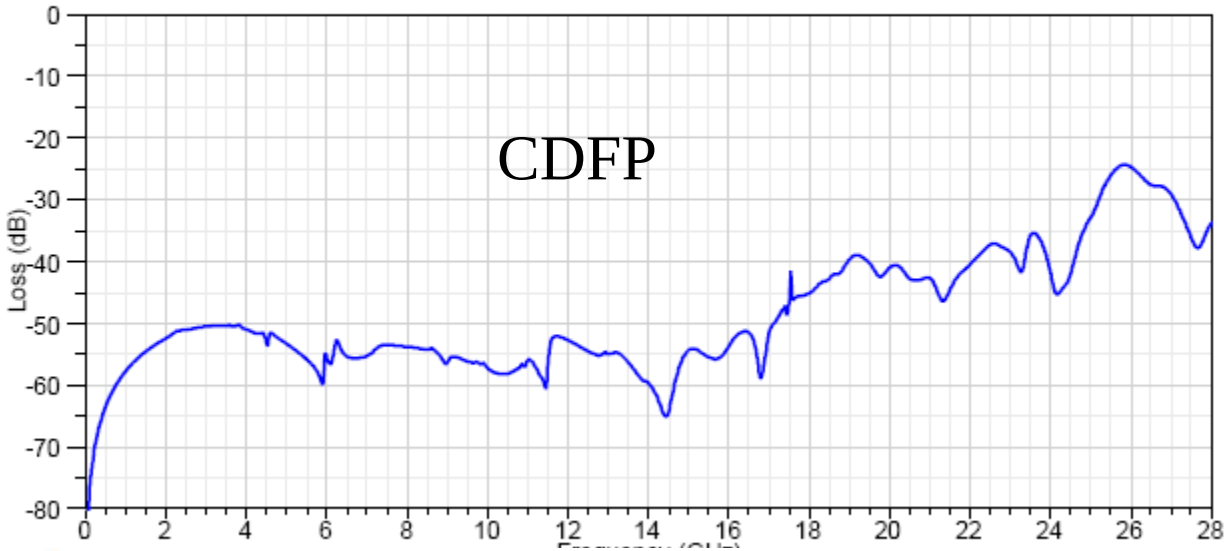
Conclusion on trace length

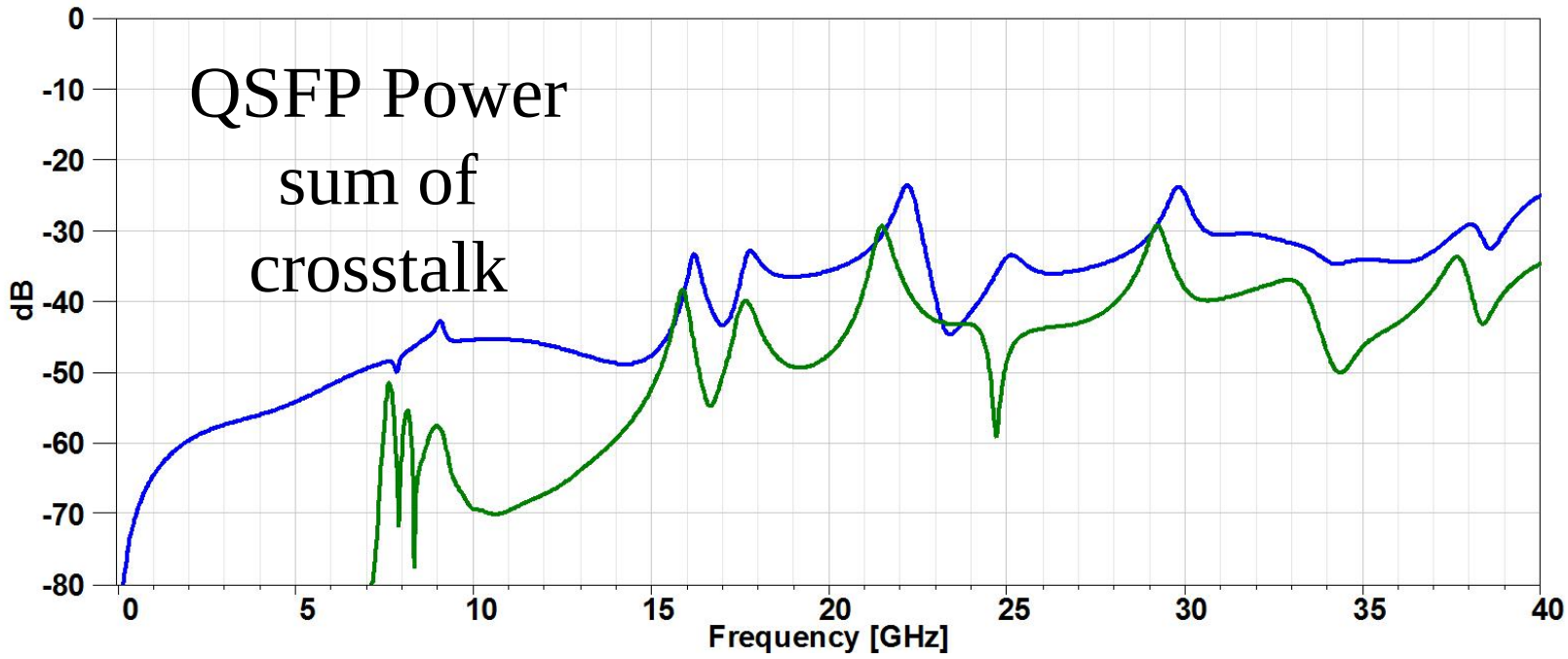
- No differences between CDAUI16 and CAUI4

Differential NEXT, between edge-cards

- Across rows

NEXT is the Same

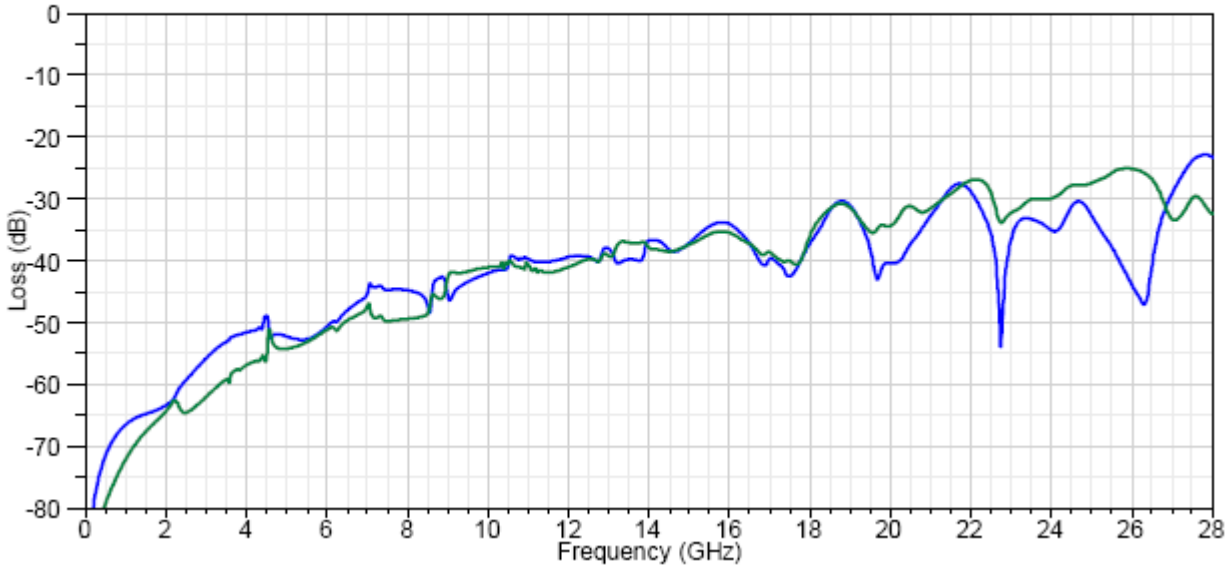


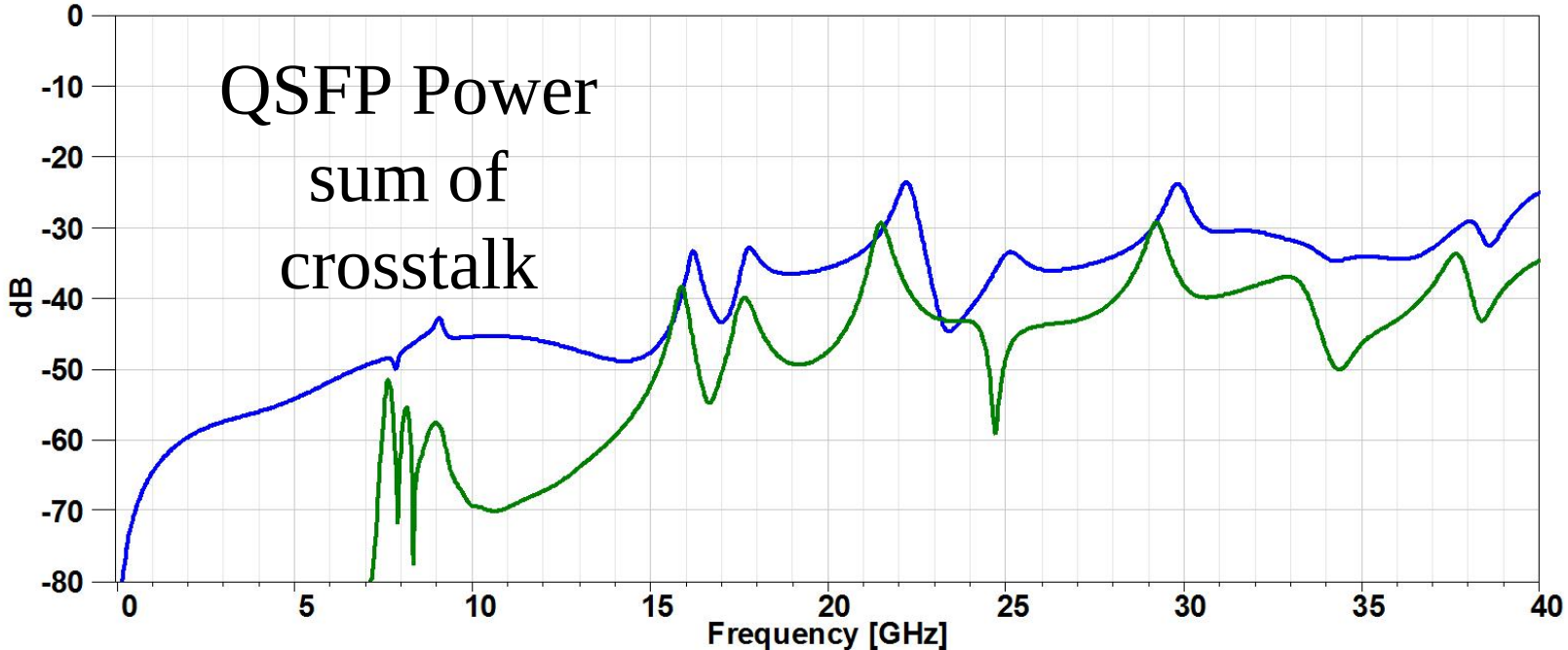


FEXT is the same

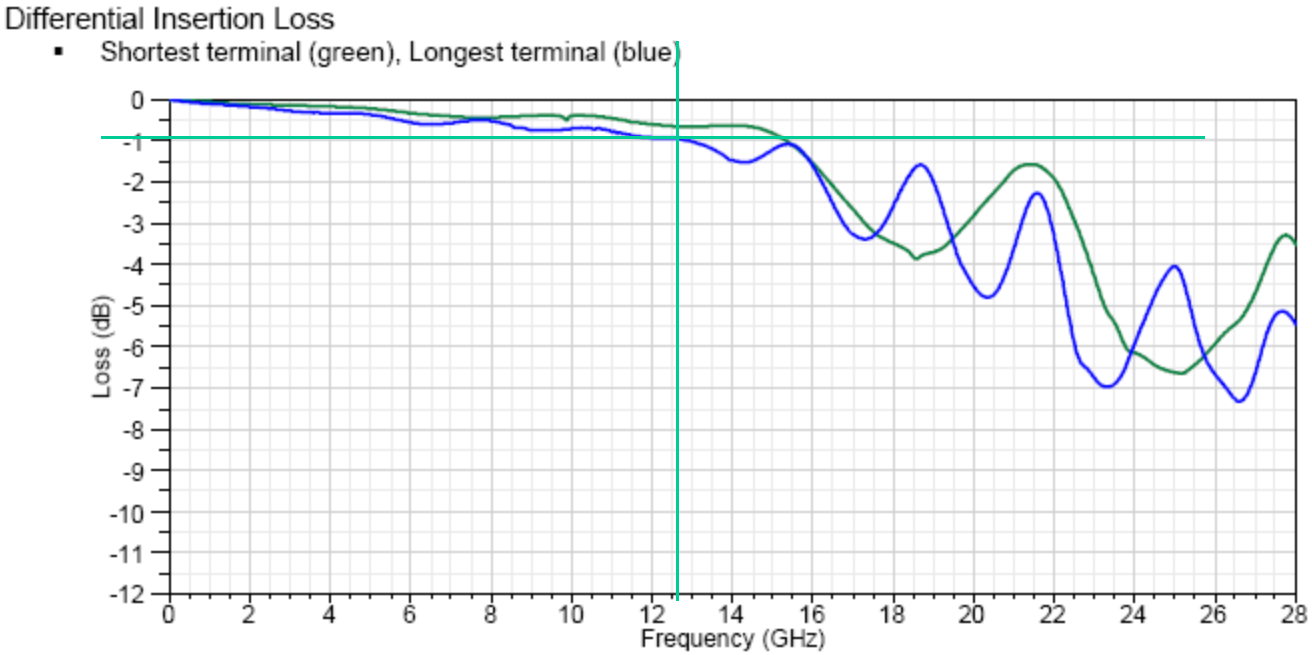
Differential FEXT, Upper Port

- Within-row (green), within-column (blue)



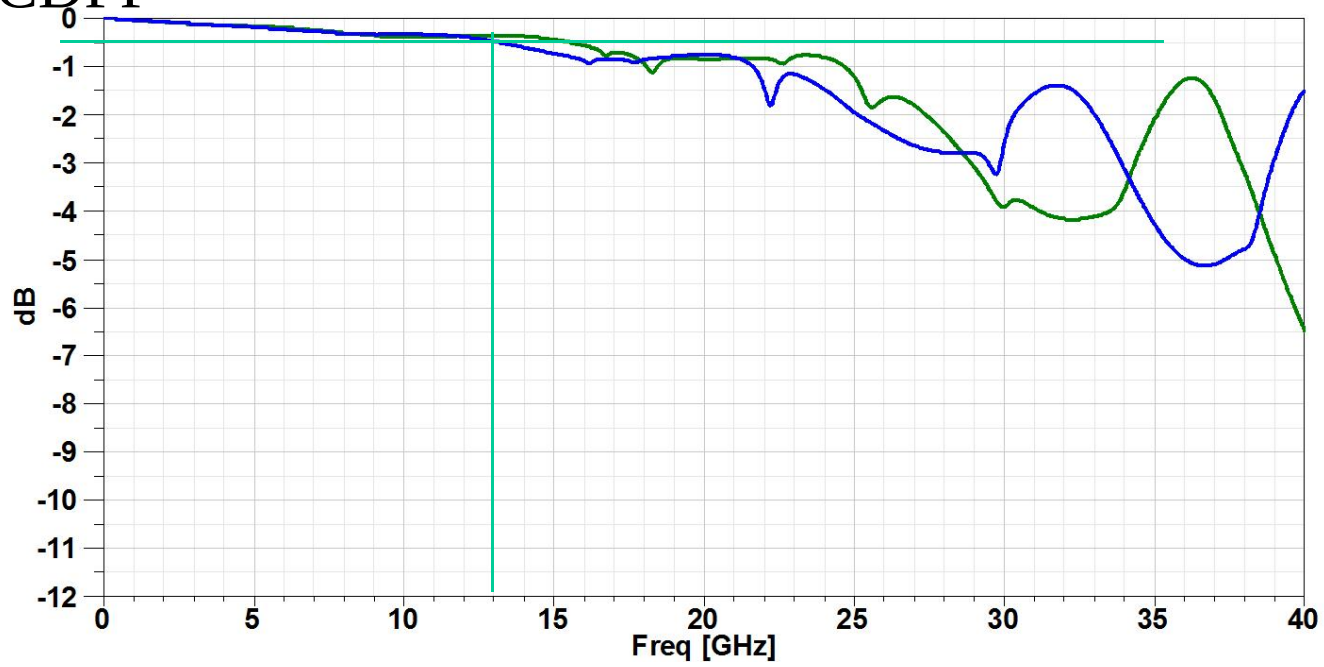


CDFP



.5dB higher loss for CDFP

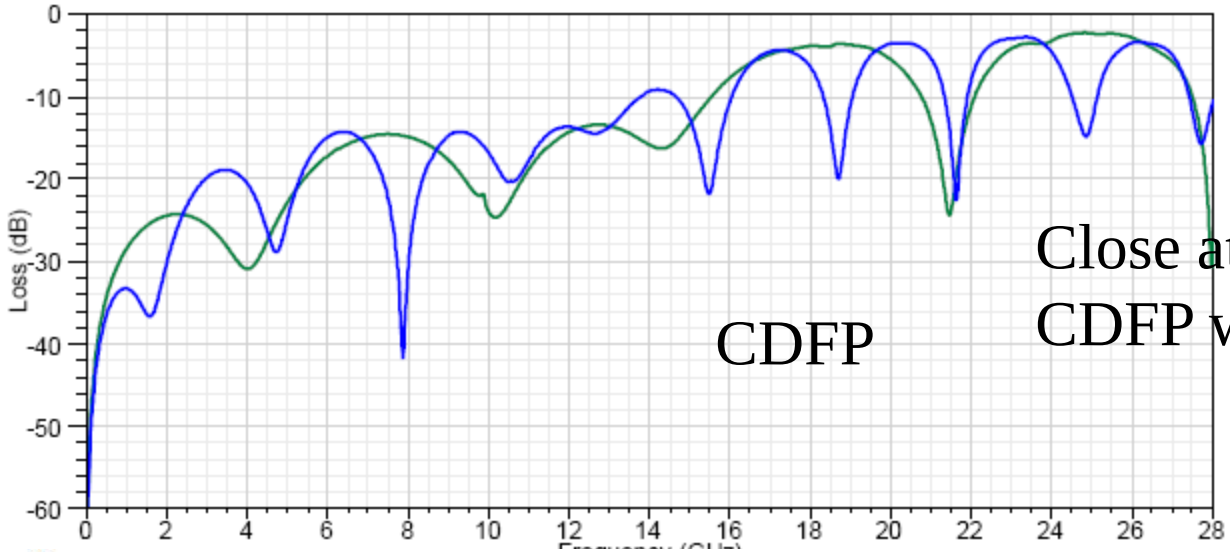
QSFP



Return loss

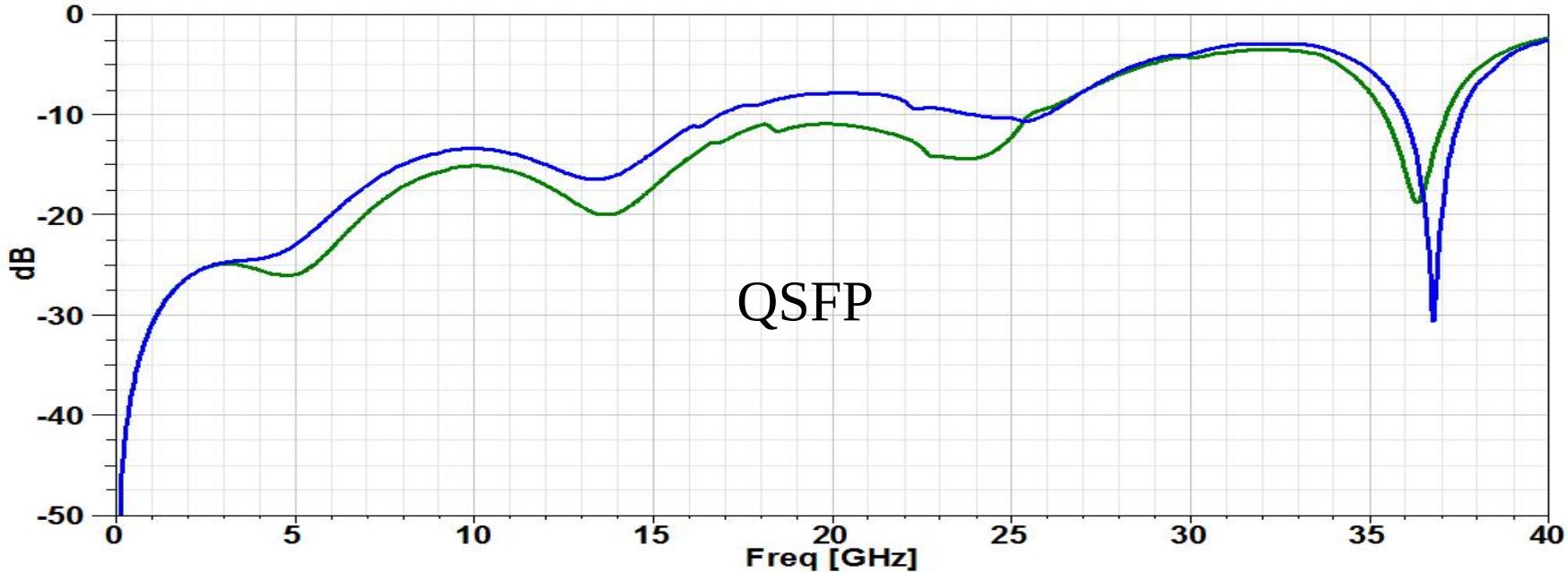
Differential Return Loss

- Shortest terminal (green), Longest terminal (blue)



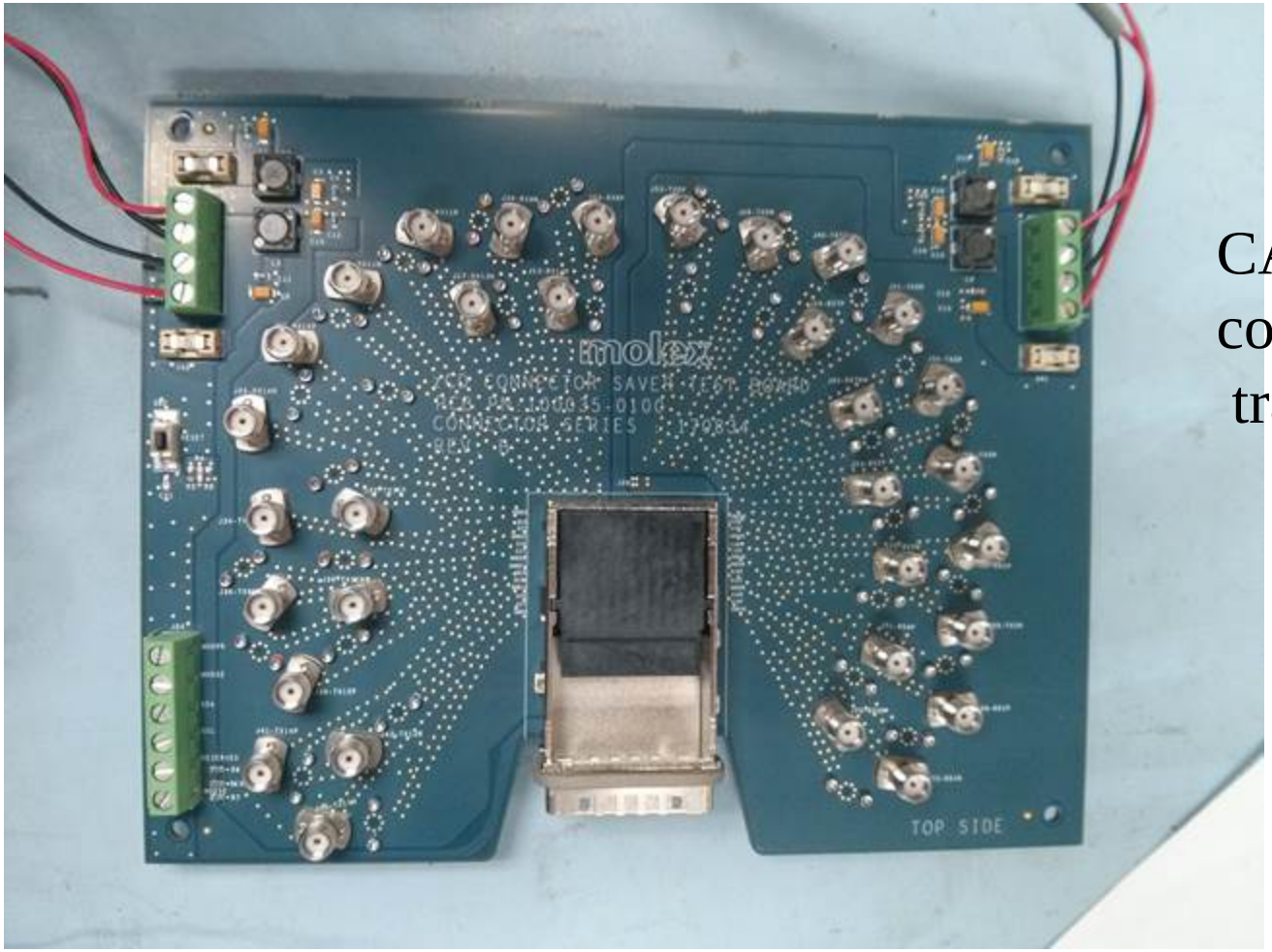
CDFP

Close at Nyquist,
CDFP worse at baud rate



QSFP

Compliance boards
MCB



CAUI4 and CDAUI16 could have the same trace loss

HCB

- Module length comparison

QSFP = 50mm
CDFP style 2 = 45mm
CDFP style 1 = 28mm

CAUI4 and CDAUI16 HCB traces could be the same loss

Options for improving CAUI4 spec if we need it for CDAUI16

- Improve input sensitivity
  - Most vendors seeing better than 50mv vs 100mv spec
- FEC coverage of CDAUI16 interface