

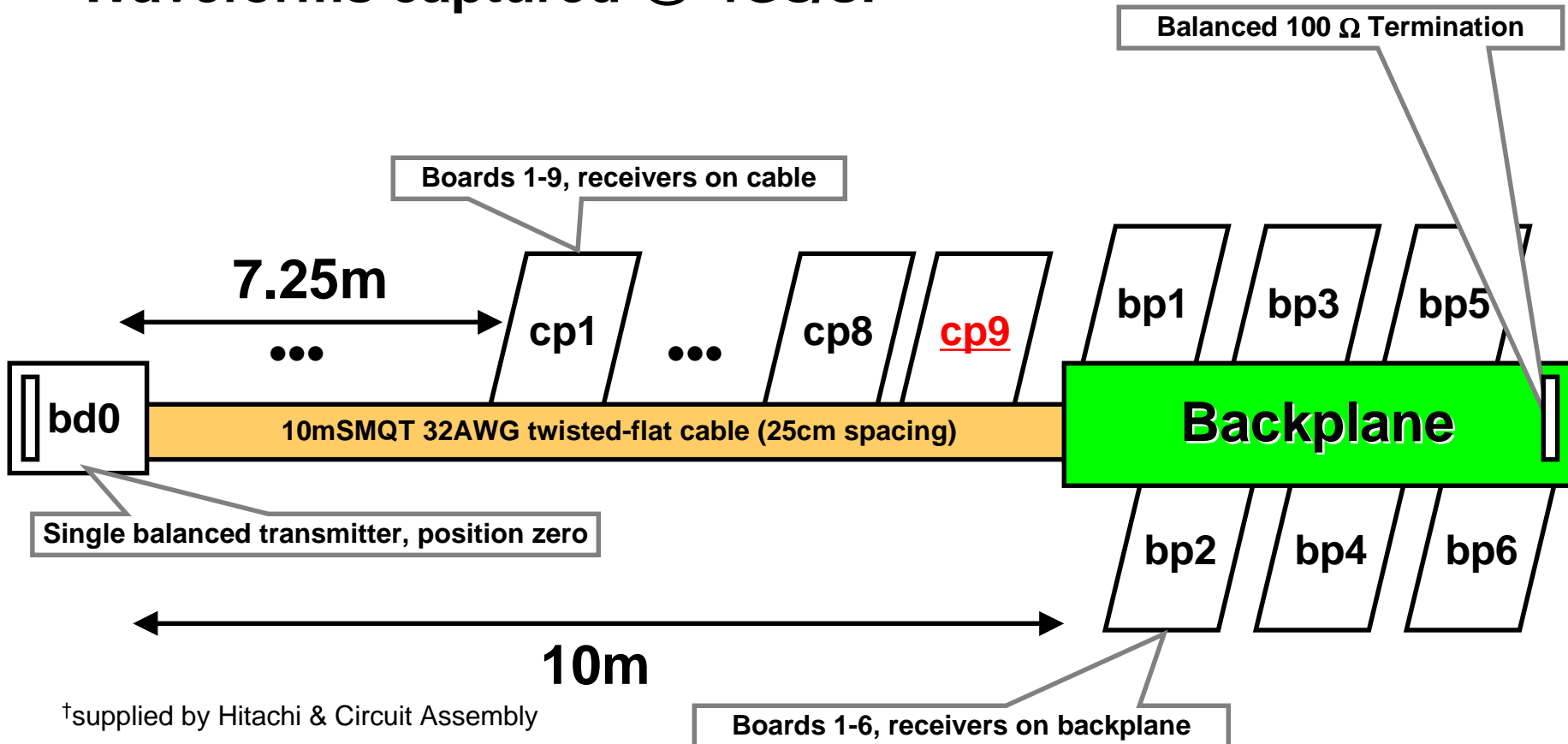
Effect of Varying Transmitter Amplitude on Ultra320 SCSI Receiver Equalization

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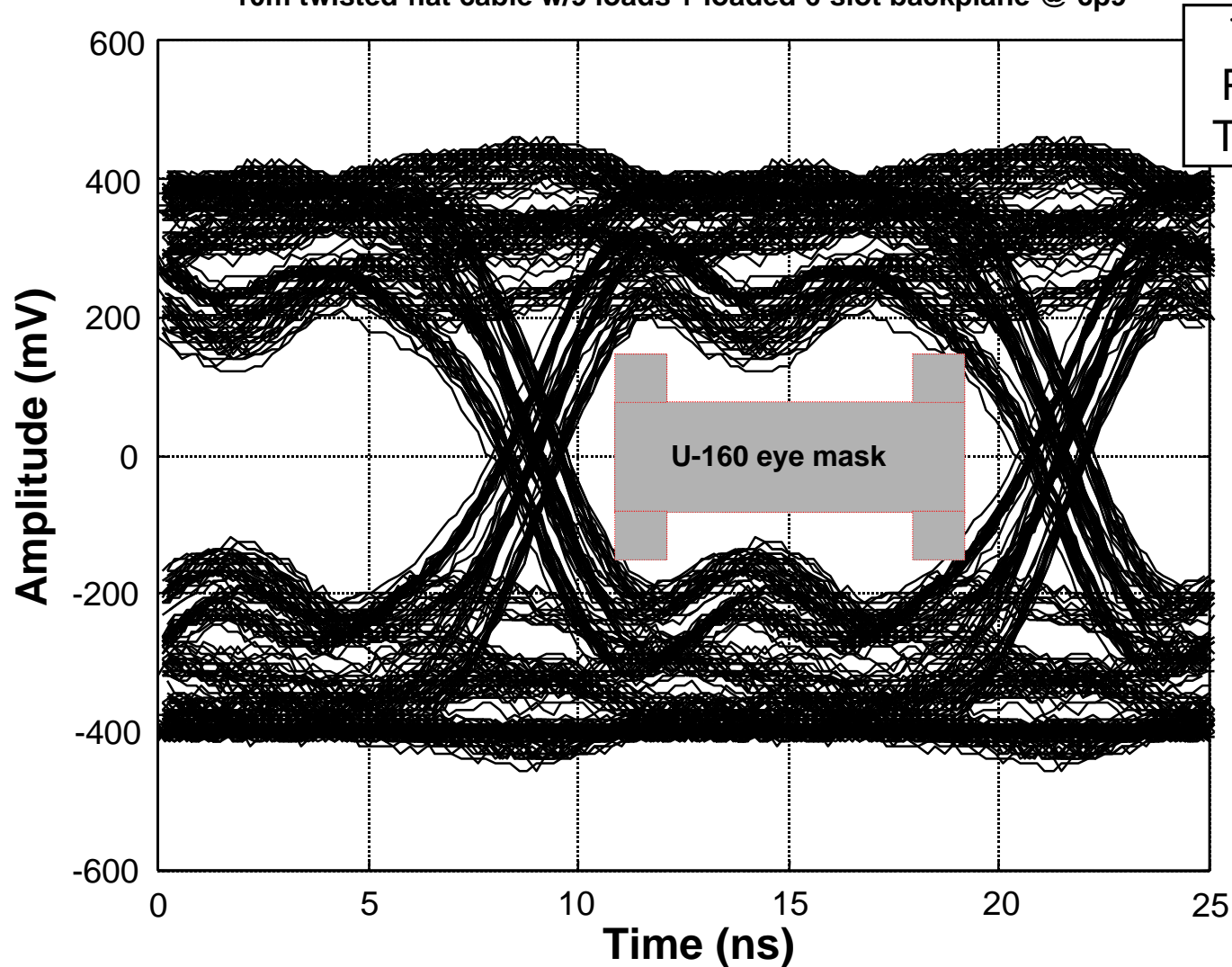
**SCSI Physical Working Group Meeting
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- All receiver equalization data presented by Quantum to this point has been based on a 400mV base-to-peak transmitter amplitude.
- This was intentional to allow comparison to 1.8x transmitter precomp boost (720mV base-to-peak) and still remain within the SPI specification.
- The following data is for a "worst case" configuration evaluating the effect of increasing amplitude on receiver equalization.

- Hitachi 10 meter 32AWG twisted-flat ribbon cable† with 25cm load spacing plus loaded 6-slot backplane.
- Waveforms captured @ 4Gs/s:

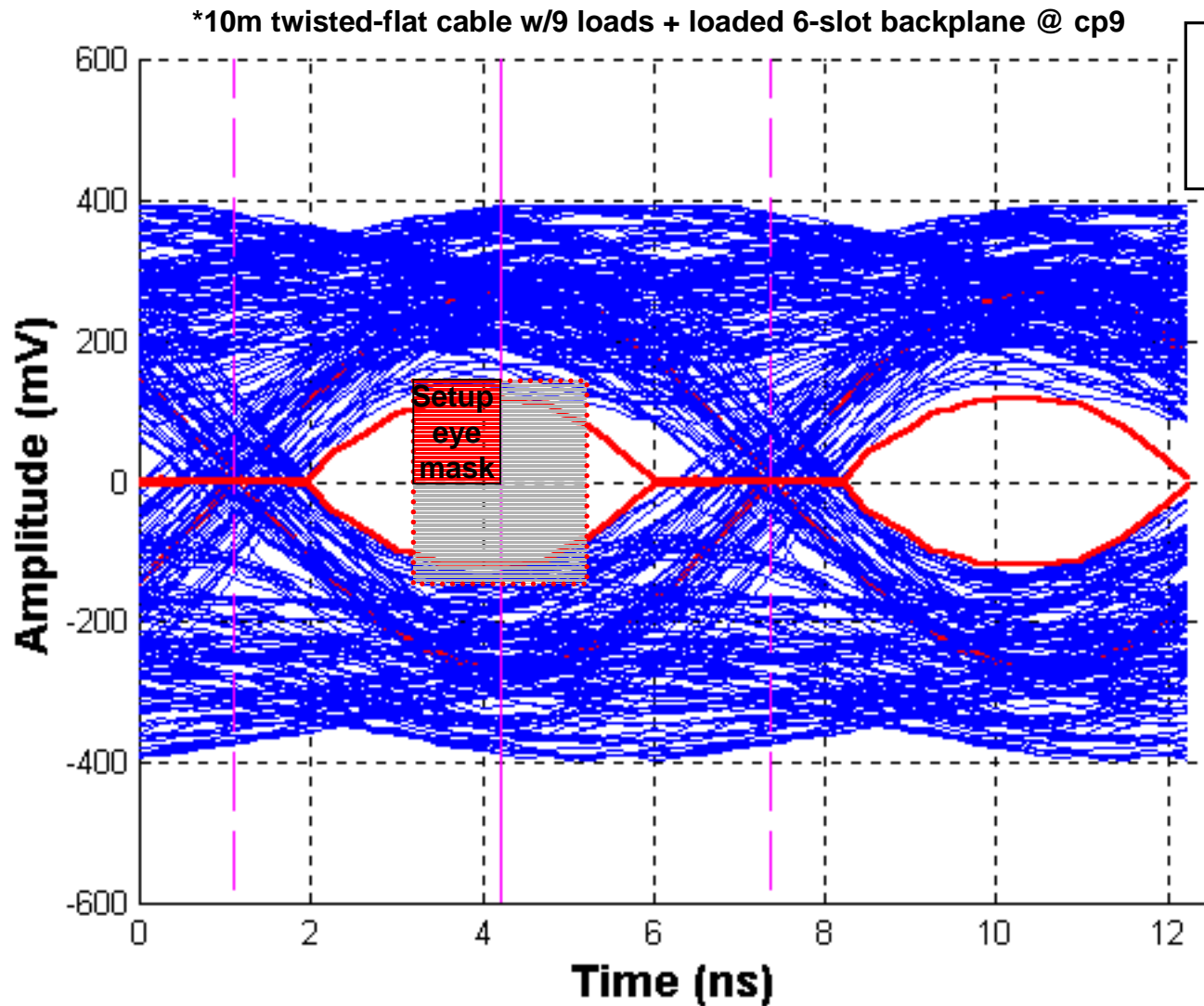


*10m twisted-flat cable w/9 loads + loaded 6-slot backplane @ cp9



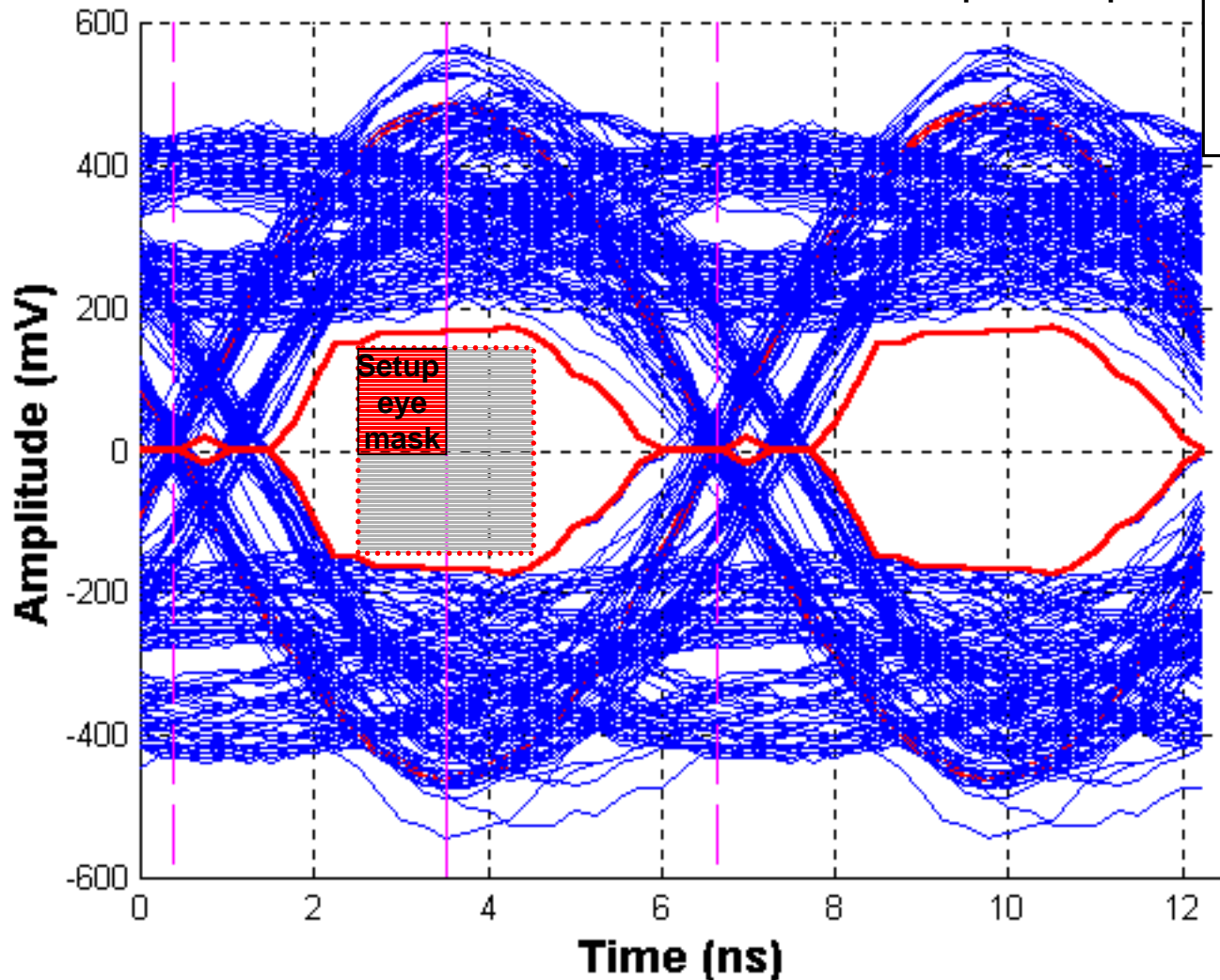
Conclusion: Failing Margin*

(*Increasing amplitude would make margin adequate))



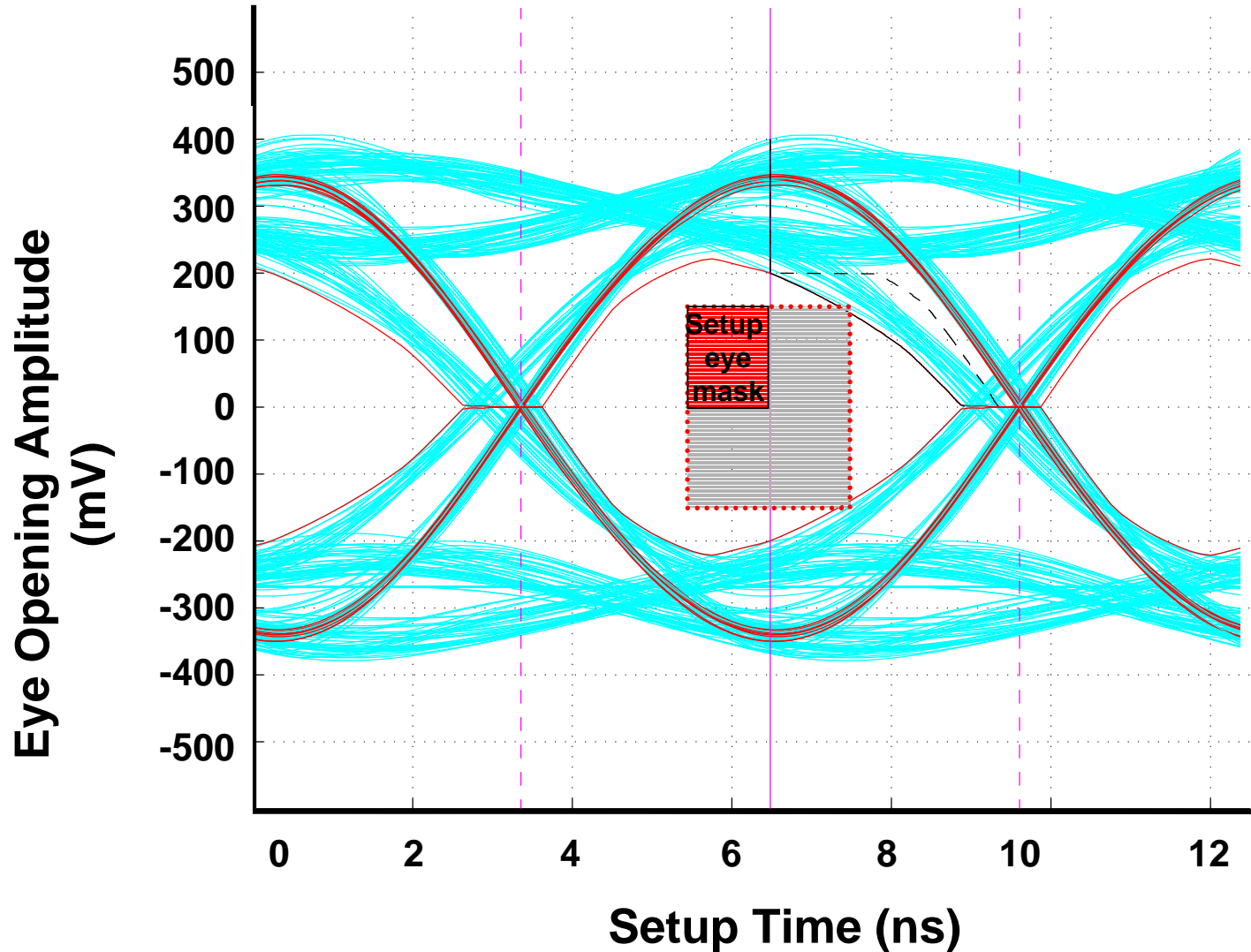
Conclusion: Failing Margin

*10m twisted-flat cable w/9 loads + loaded 6-slot backplane @ cp9

†Slide From
Presentation
T10/00-147r1

Conclusion: Insufficient Margin
(Can't increase amplitude to improve margin)

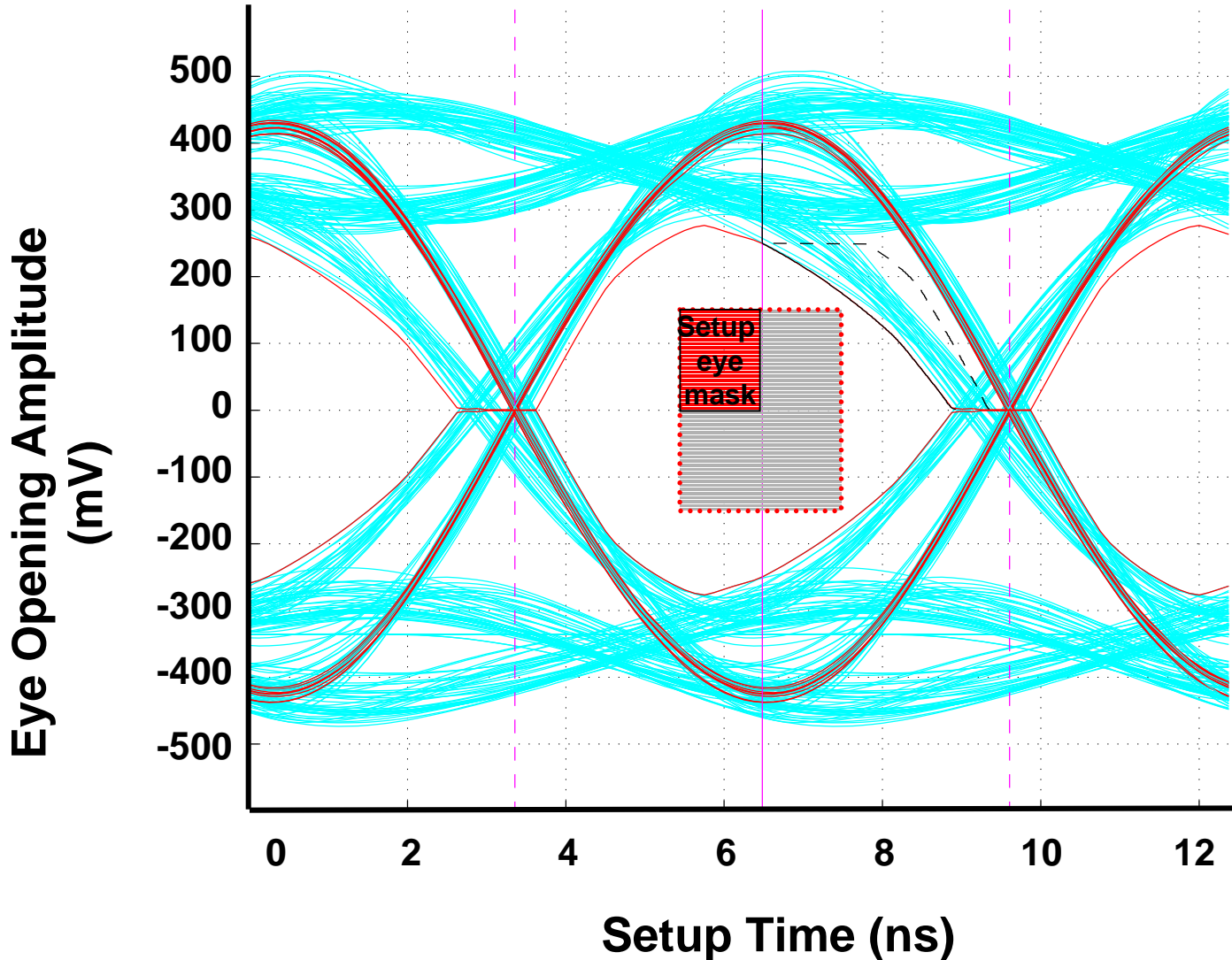
*10m twisted-flat cable w/9 loads + loaded 6-slot backplane @ cp9



Conclusion: Excellent Set-up Margin*

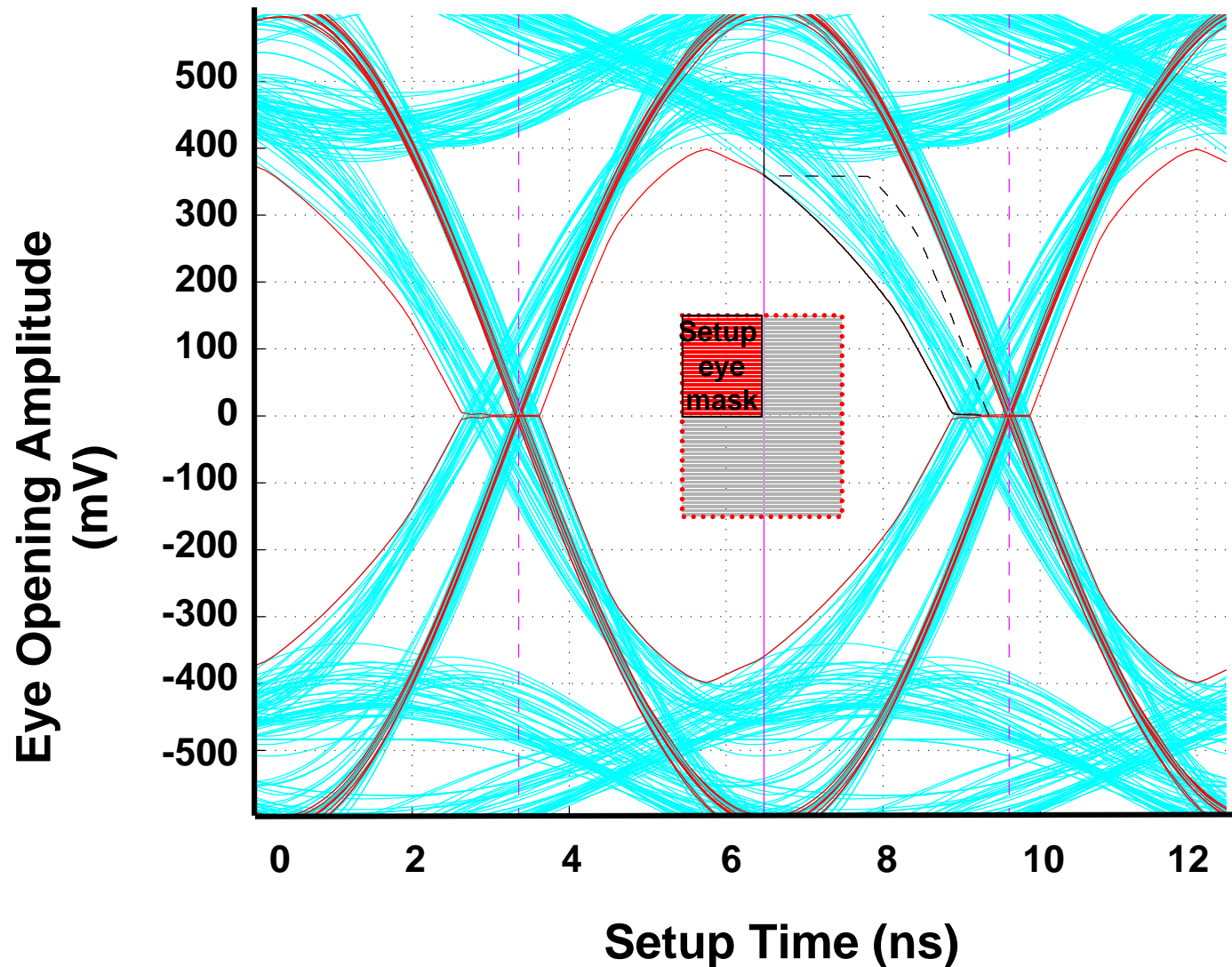
(*Increased amplitude would make Hold margin adequate)

*10m twisted-flat cable w/9 loads + loaded 6-slot backplane @ cp9

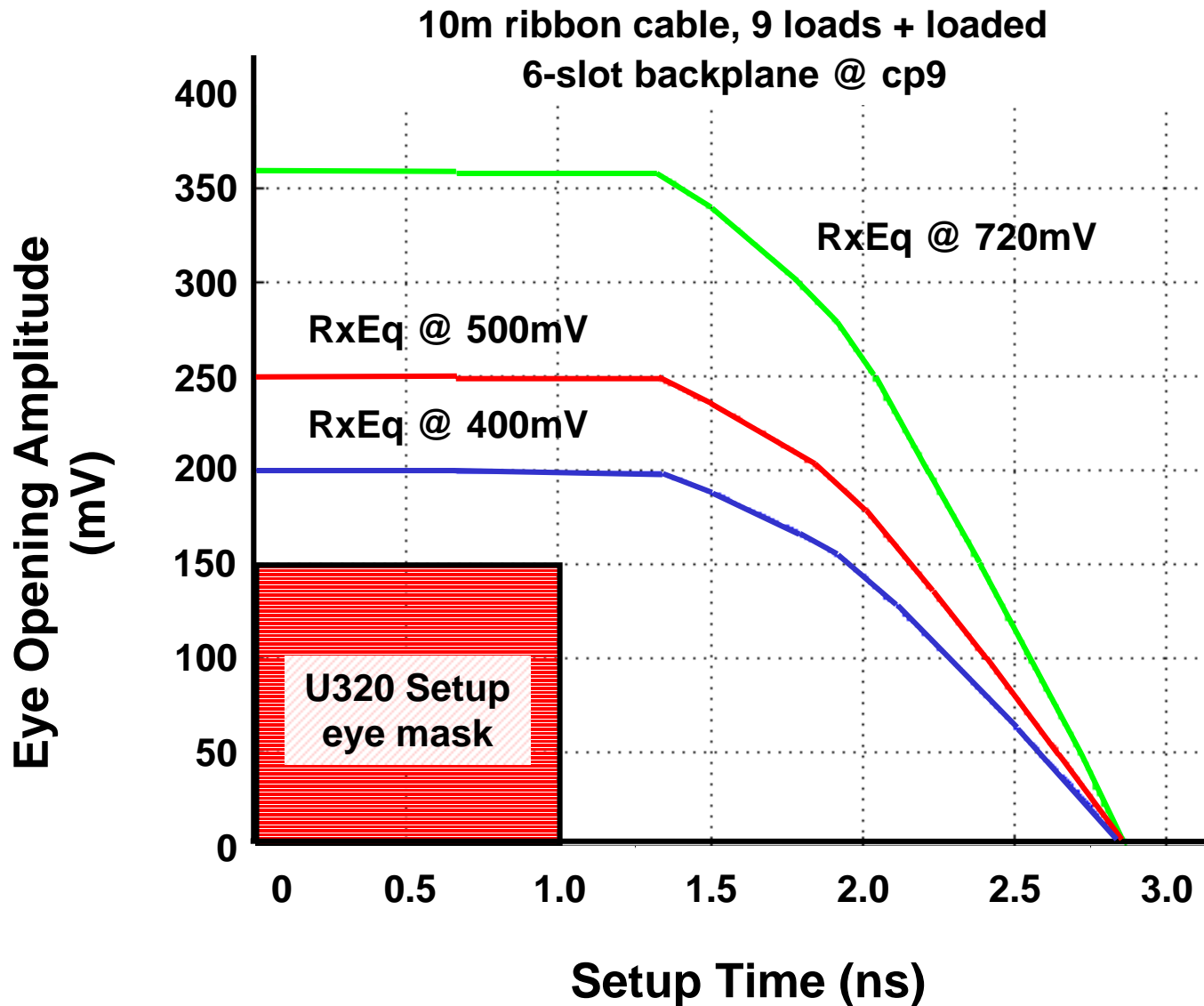


Conclusion: Excellent Margin

*10m twisted-flat cable w/9 loads + loaded 6-slot backplane @ cp9



Conclusion: Excellent Margin



As predicted, increasing transmitter amplitude will increase margin when using receiver equalization.