

XLAUI/CAUI Transmit Compliance Testing

xAUI AdHoc Meeting

Dec 19, 2008

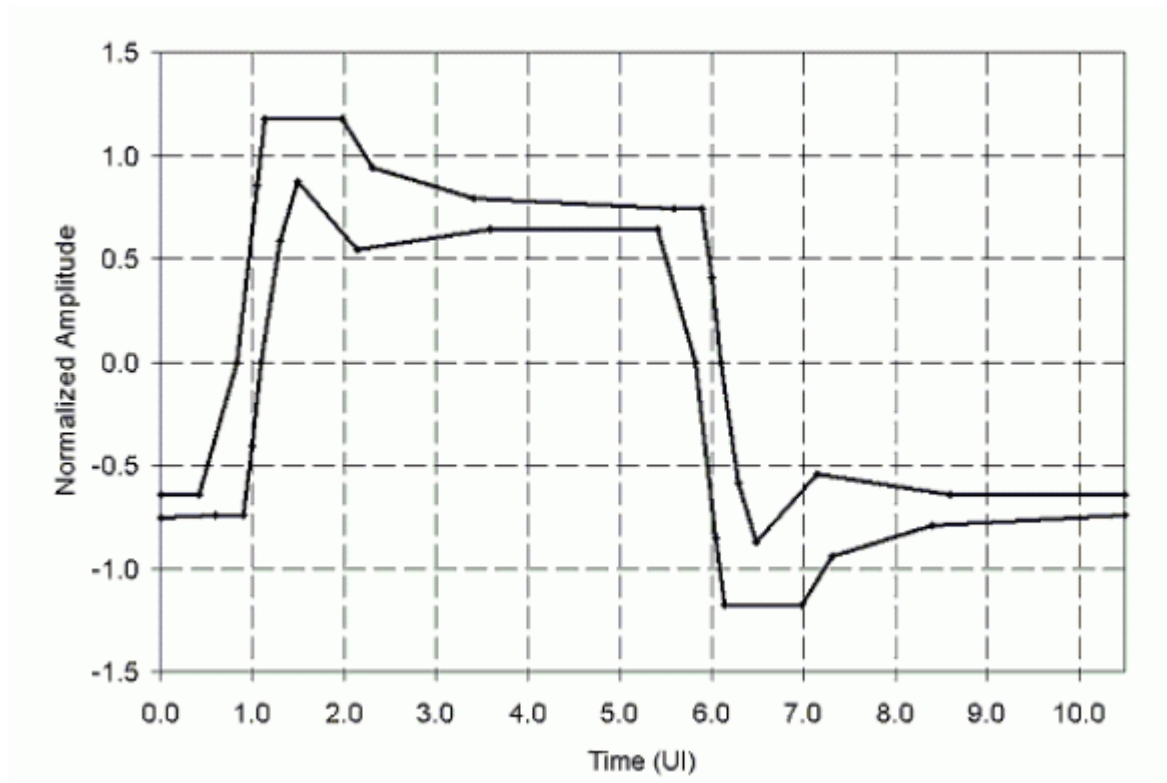
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How to Test xAUI Transmitter for far end Compliance

- XAUI had simple channel with just loss – too simplistic
- xAUI transmitter need to be tested with channel shown in ghaisi_01_0708 and pass far end mask with single pre-emphasis setting, How to test transmitter for far end compliance
 - Provide a set of complex SDD21/SDD11/SCC11 function fitted to each channel <2in and 10in, either test with channel meeting these requirements or convolve transmitter waveform with channel data.
 - Instead of actual SDD21/SDD11/SCC11 complex function can be provided, since these channel has connector this method would be accurate enough.
 - Use transmitter waveform compliance similar to CX4 or approximate the mask by defining the min/max tr/tf, VMA, min de-emphasis, and V p-p.
- In actual application pre-emphasis may be adjusted based on the trace length.

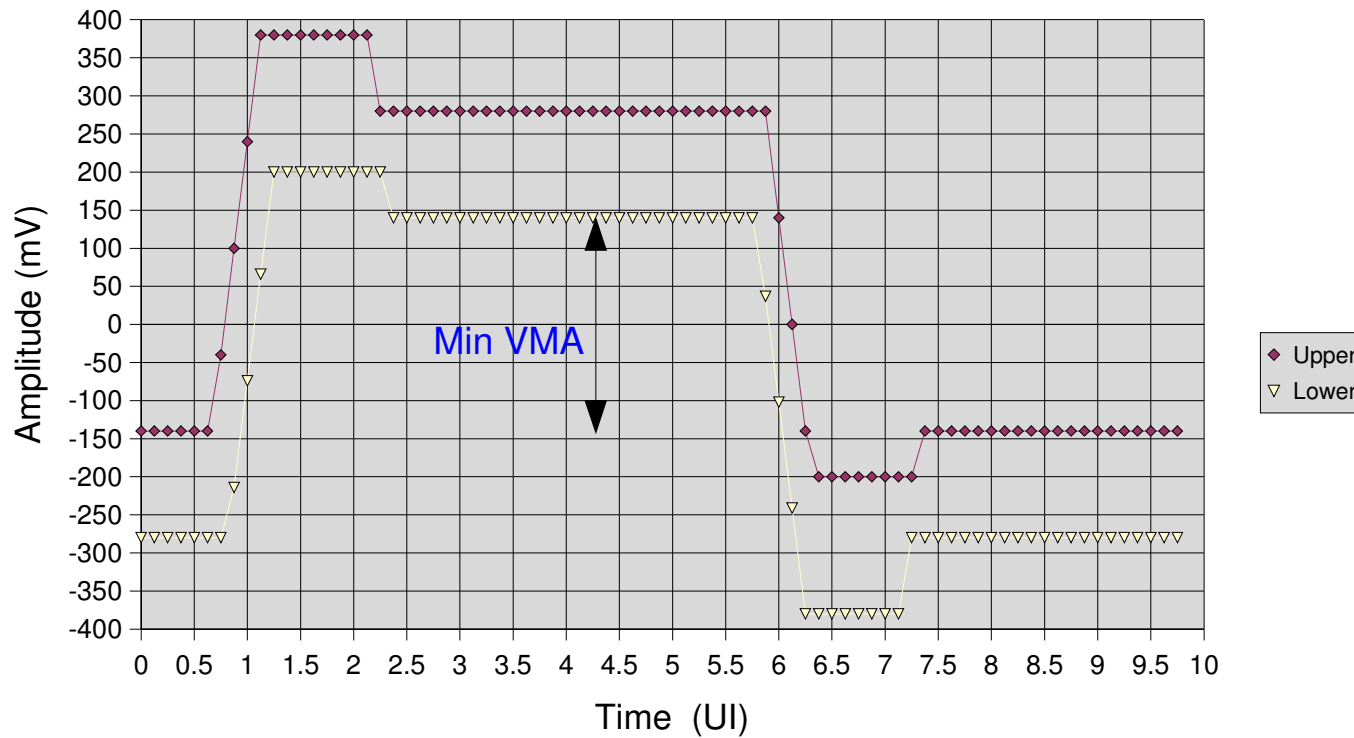
CX4 Transmitter Near End Template

- The actual transmitter waveform must fit between the upper and lower mask limit.



Work in Progress xAUI Template

- This mask still require defining min de-emphasis



Simplified Approach in Defining xAUI Transmitter

- Define the following parameters
 - Transmit max output=760 mV p-p (already defined)
 - Min VMA = 280 mV p-p
 - Min de-emphasis = 3.5 dB
 - Min Tr/Tf 20-80% = 24 ps (already defined)
 - Max Tr/Tf 20-80%=44 ps
 - Meet transmit jitter with de-emphasis off

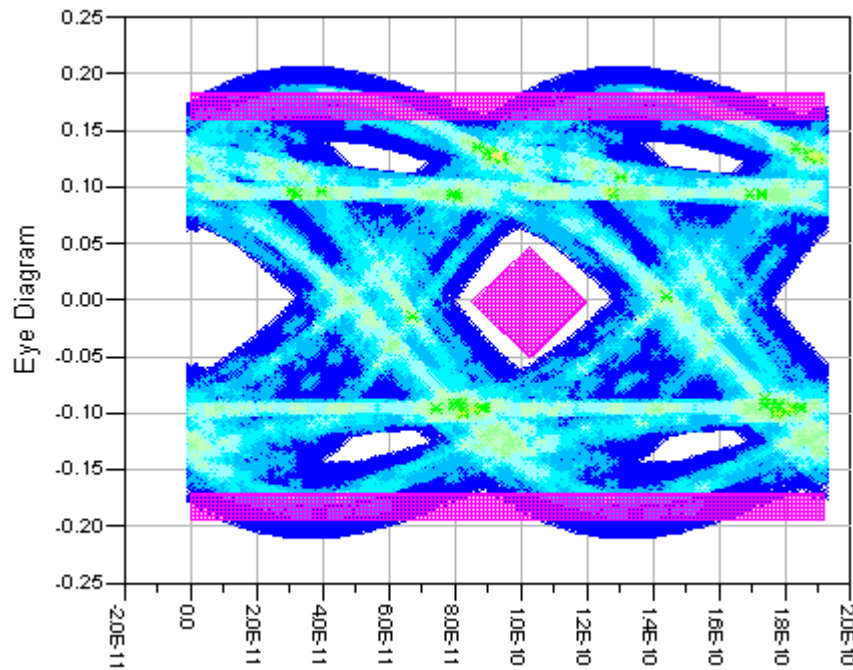
The Impact of Rise Time on Far End Compliance

- The rise time assumed was 24 to 44 ps

TX Ampl = 380 mV

Tr=44 ps

Post value=0.36



TX Ampl = 200 mV

Tr=24 ps

Post value=0.16

