

XLAUI/CAUI Experimental Results

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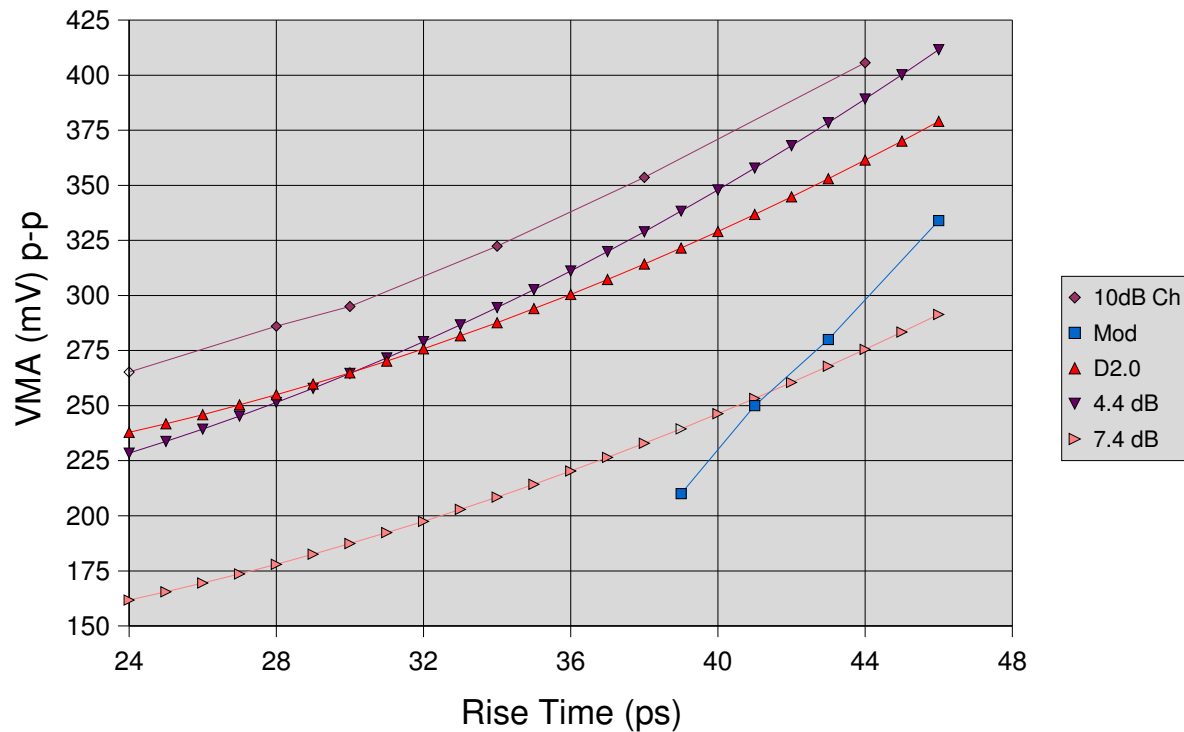
Summary

- Investigated XLAUI near and far end compliance over 10.5 dB channel per CL83A
- Investigated XLAUI far end compliance over 3.6 dB channel per CL83B
- Since the chip was on a DV board about 1 dB loss was not included in the channel loss
- Eye mask compliance to BER1E-12 is very time consuming and result could be impacted due to higher noise floor of BERTs compare to scopes
 - Can we still consider eye mask compliance at BER 5E-5?
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83A Vtx de-emphasis

- Vtx de-emphasis per D2.1

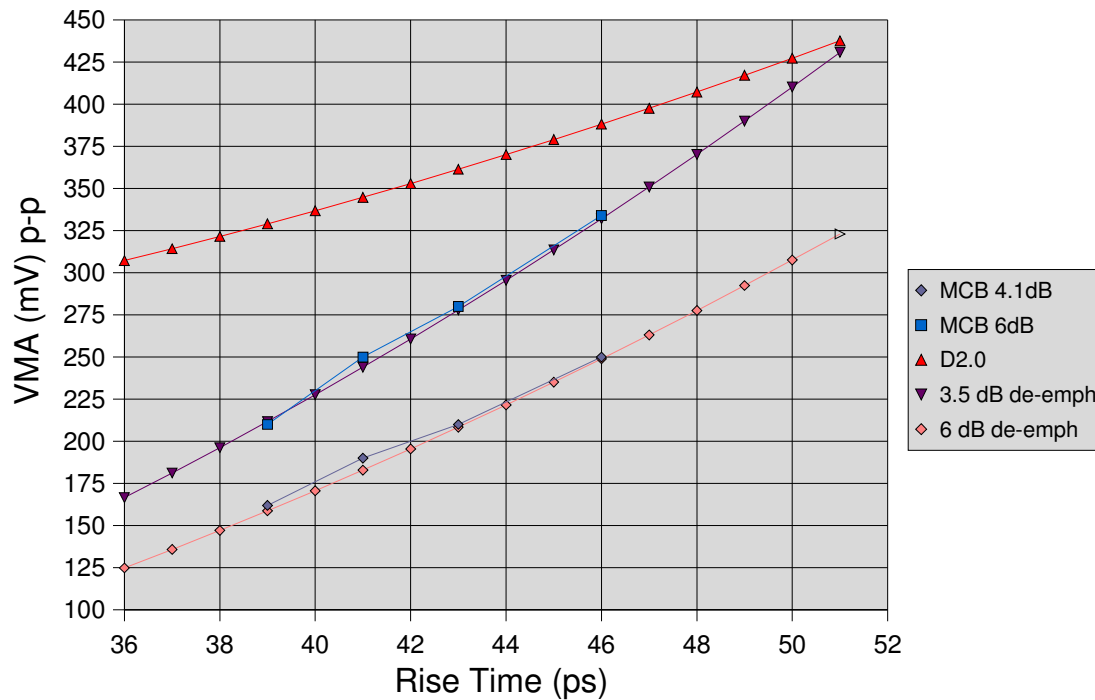
– $V_{tx-demph} = (234.64 - 2.13 \cdot x + 0.18 \cdot x^2) \cdot 1.32 \cdot (10^{y/20})$



83B Vtx de-emphasis

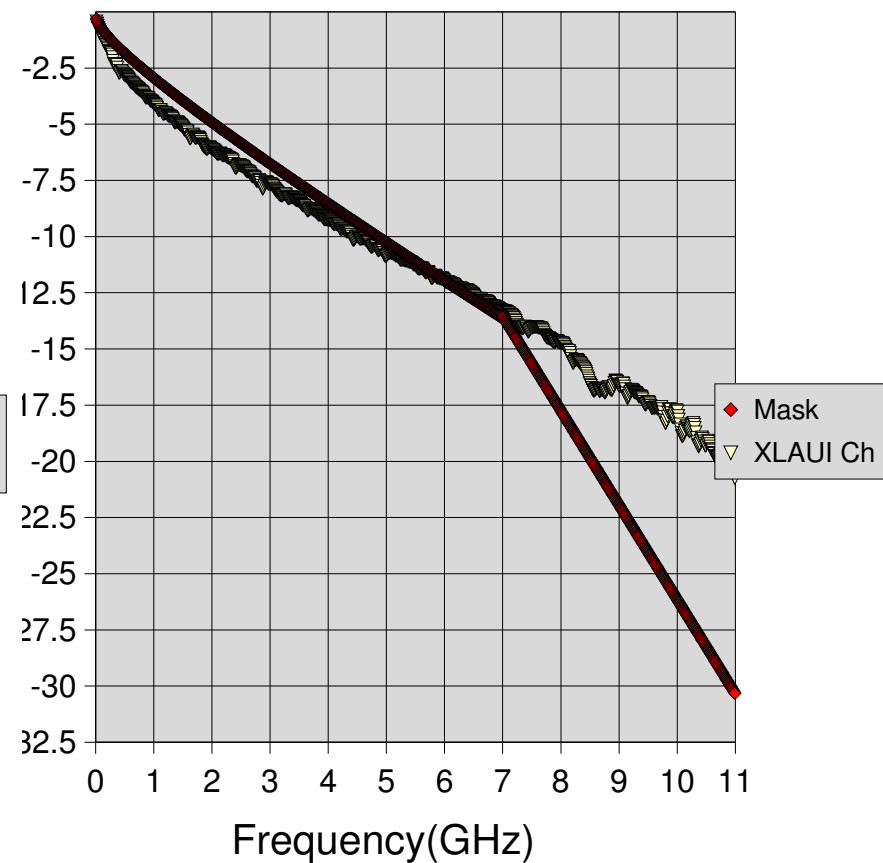
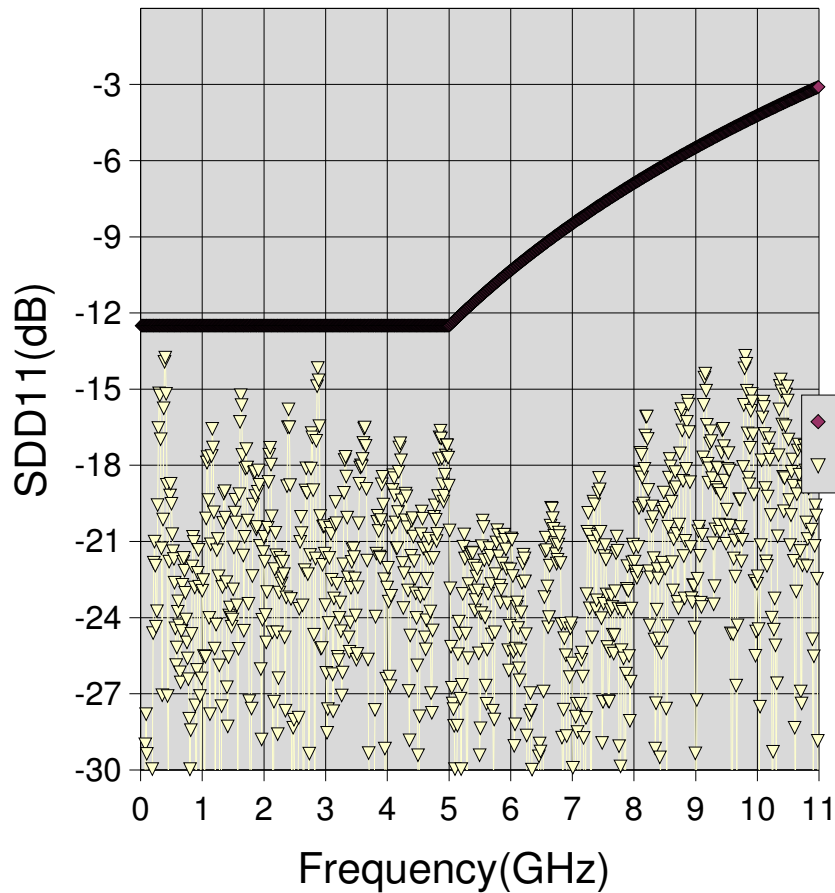
- Vtx de-emphasis per D2.1

- $V_{tx-demph} = (-110 - 2.13 \cdot x + 0.32 \cdot x^2) \cdot (10^y / 20)$



XLAUI Channel (83A)

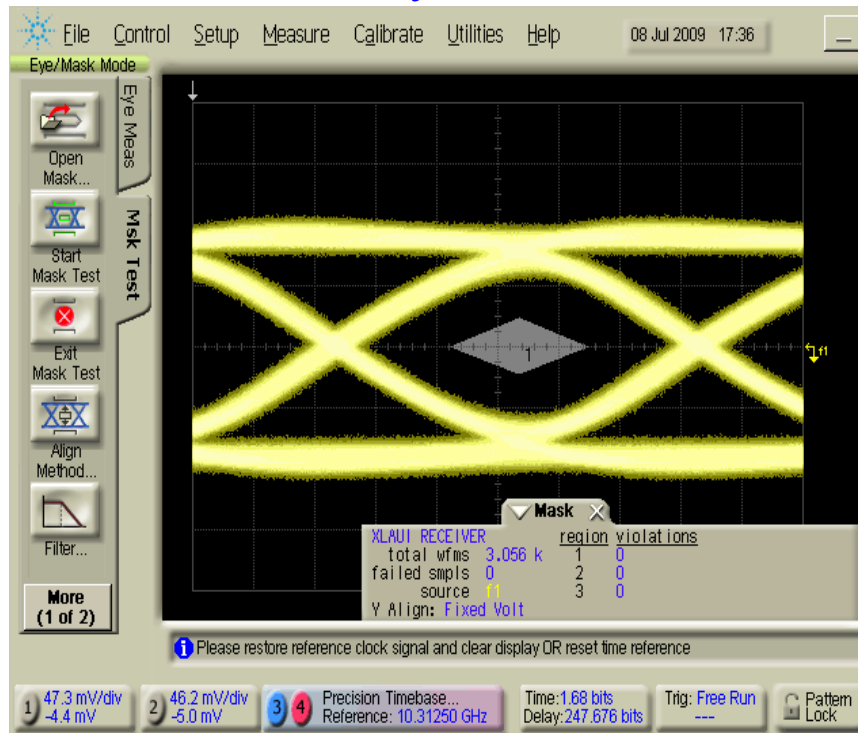
- Include SFP+ connector



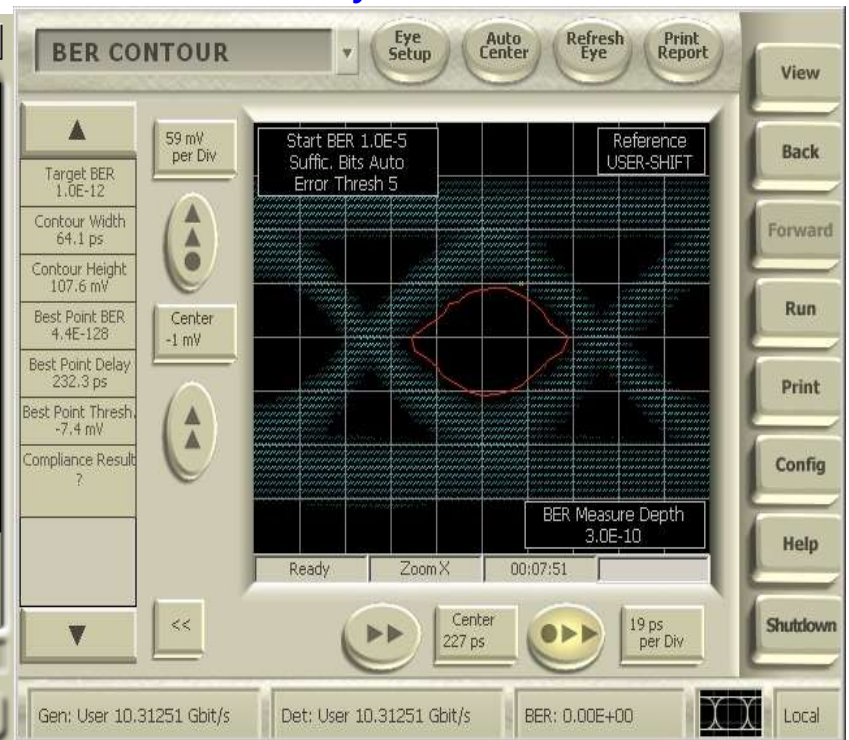
CL83A far End Compliance

- Near end met Vtx de-emphasis for the given rise time

Eye at $\sim 1E-6$

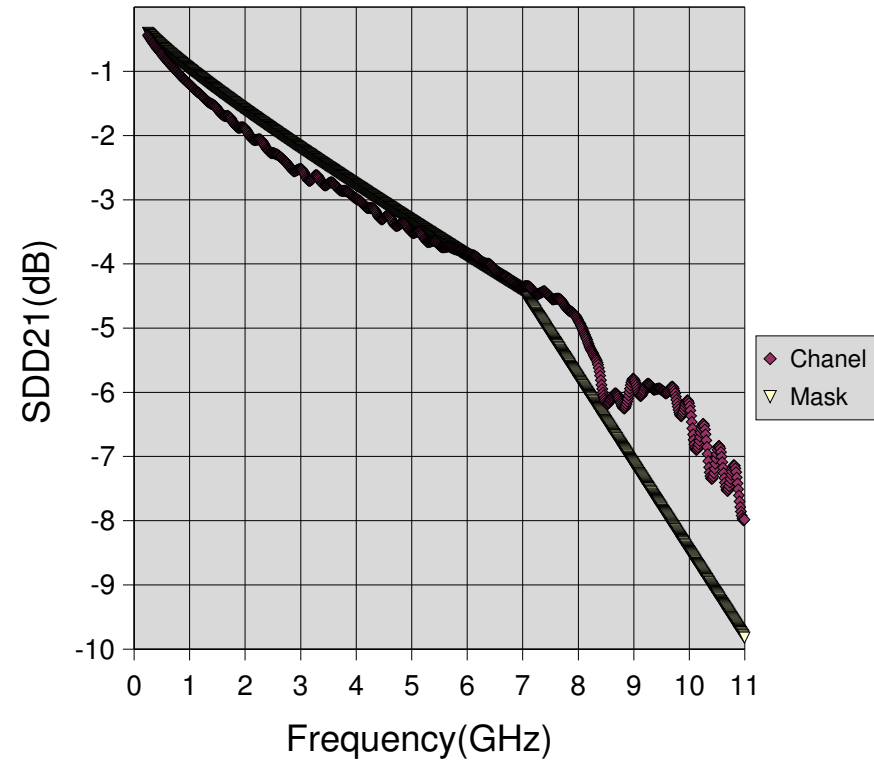
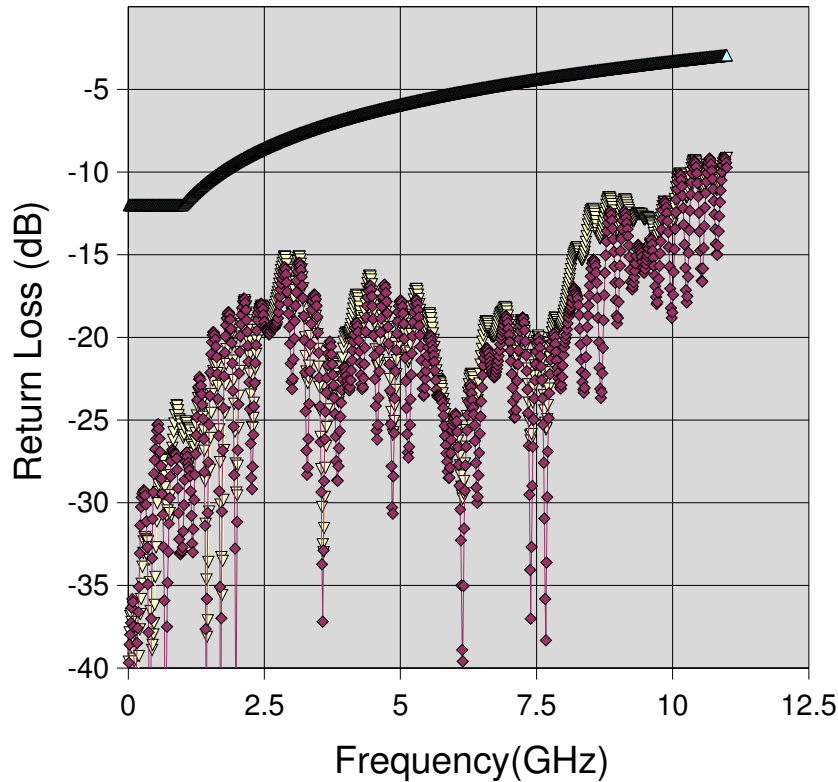


Eye at $1E-12$



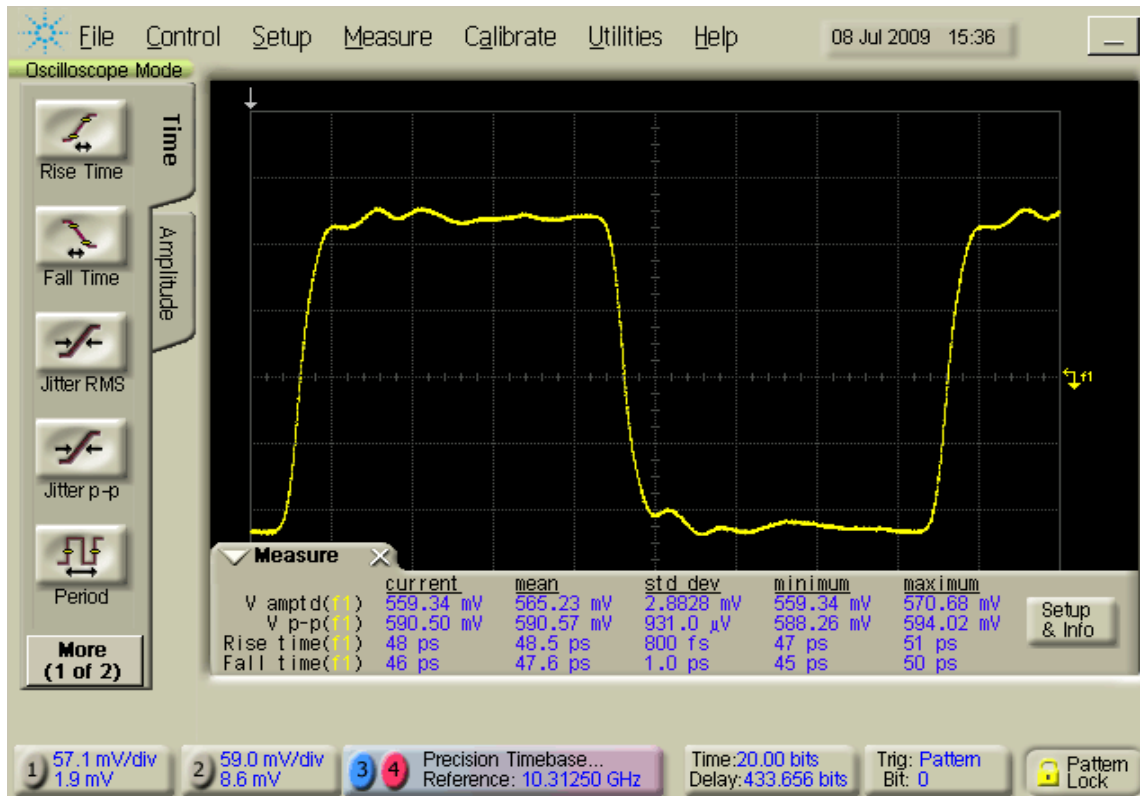
XLAUI Channel (83B)

- Include SFP+ connector



CL83B Module Output

- Through 3.6 dB loss channel with zero de-emphasis
 - $V_{p-p}=590$ mV
 - $T_r=48.5$, $T_f=47.6$ ps



CL83B Module Output

- Far end compliance are met
 - BER 1E-12 would reduce the margin

De-emphasis=3.6 dB
MinVtx-demp=358 mV
Actual launch=353 mV

De-emphasis=5.7 dB
MinVtx-demp=279 mV
Actual launch=277 mV

