

The background of the slide features a stylized world map in a light tan color, centered on the Atlantic Ocean. The map is overlaid on a dark maroon curved band at the top and a greenish-brown curved band at the bottom. The central area is a solid orange-brown color.

nAUI Ad Hoc

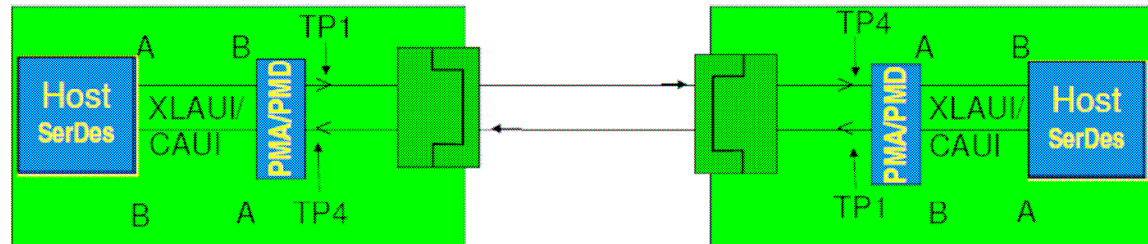
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Agenda

1. Call for patents
 1. (<http://standards.ieee.org/board/pat/pat-slideset.ppt>)
2. Introduction
 1. Reminder: nAUI & Baseline
 2. Current Draft Status: open TBDs, unresolved comments
3. Path Forward

Application Diagrams – Simple Chip-Chip Interface

- KR application with XLAUI/CAUI Retimer



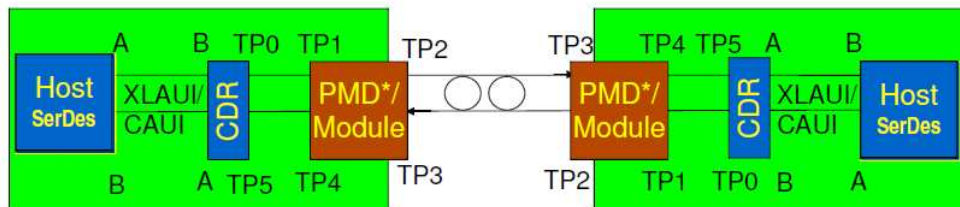
A. Ghiasi

IEEE 802.3ba

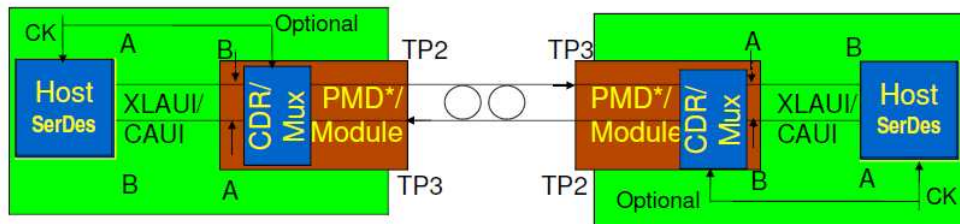
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Application XLAUI/CAUI Extender for Front Ports (PMD nx10Gbaud)

- Application with CDR on the host PCB (QSFP/CSFP)



- Application with CDR or Mux/De-mux in the module (QFP/CFP) with optional XLAUI/CAUI clock



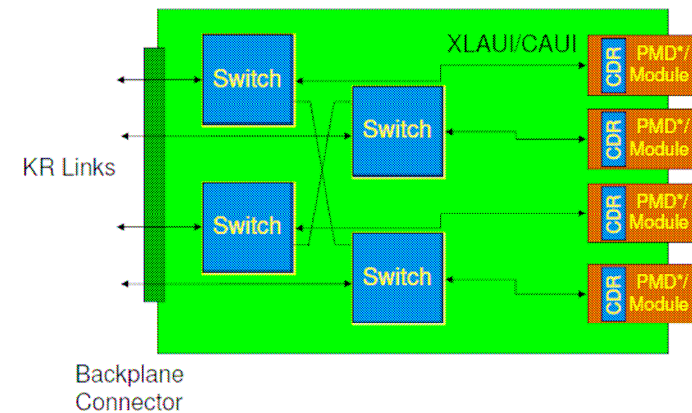
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Linecard Application of XLAUI/CAUI

- Typical CAUI implementation can be supported with 250 mm on FR4.
- In the implementation shown below 375 mm on improved FR4 may be required.



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Baseline Motion

- **Motion #4:** Adopt ghiasi_01_0708.pdf pages 17, 18, 19, 20, and 29 as the baseline proposal for the XLAUI/CAUI Electrical Interface with the following addition: All links are AC Coupled with maximum single ended voltage difference from -0.3V to 4.0V.

Table 83A-1—Transmitter characteristics

Parameter	Value	Units
Signalling speed per lane (range)	10.3125 GBd \pm 100 ppm	GBd
Unit interval nominal	96.96969697	ps
Single-ended output voltage range maximum minimum	4.0 -0.4	V V
Maximum Differential Output Voltage, peak-to-peak	760	mV
Maximum Termination Mismatch at 1MHz	5	%
Maximum Output AC Common Mode Voltage, RMS	15	mV
Minimum Output Rise and Fall time (20% to 80%)	24	ps
Differential Output S-parameters	(see "Equation 83A-1")	dB
Common Mode Output S-parameters	(see "Equation 83A-2")	dB
Maximum Total Jitter ^a	0.32	UI
Maximum Deterministic Jitter ^b	0.17	UI
Transmitter eye mask definition X1 ^c	0.16	UI
Transmitter eye mask definition X2 ^c	0.38	UI
Transmitter eye mask definition Y1 ^c	190	mV
Transmitter eye mask definition Y2 ^c	380	mV

^a Total Jitter Measurement Methodology defined in section 83A.4.3

^b Deterministic Jitter Measurement Methodology defined in section 83A.4.3

^c Transmitter Eye Mask illustrated in Figure 83A-5

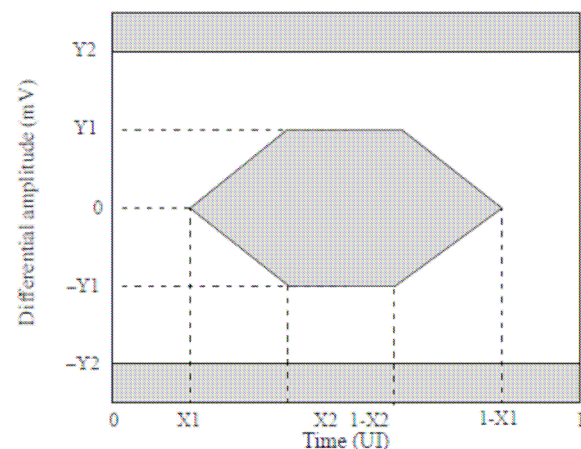


Figure 83A-5—Driver template

Baseline Motion

Table 83A-2—Receiver characteristics

Parameter	Value	Units
Signalling speed per lane (range)	10.3125 GBd +/- 100 ppm	GBd
Unit interval nominal	96.96969697	ps
Minimum Differential Input Voltage, p-p	See receiver eye mask definition	mV
Maximum Input AC Common Mode Voltage, RMS	20	mV
Minimum Input Rise and Fall Time (20% to 80%)	24	ps
Differential Input S-parameters	(see "Equation 83A-3")	dB
Differential Common Mode Input Conversion S-parameters	(see "Equation 83A-4")	dB
Maximum Total Jitter ^a	0.62	UI
Maximum non-EQ Jitter ($TJ - ISI$) ^b	0.42	UI
Receiver eye mask definition $X1^c$	0.31	UI
Receiver eye mask definition $X2^c$	0.5	UI
Receiver eye mask definition $Y1^c$	45	mV
Receiver eye mask definition $Y2^c$	425	mV

^a Total Jitter Measurement Methodology defined in section 83A.4.3

^b Maximum non-EQ Jitter Measurement Methodology defined in section 83A.4.3

^c Receiver Eye Mask illustrated in Figure 83A-6

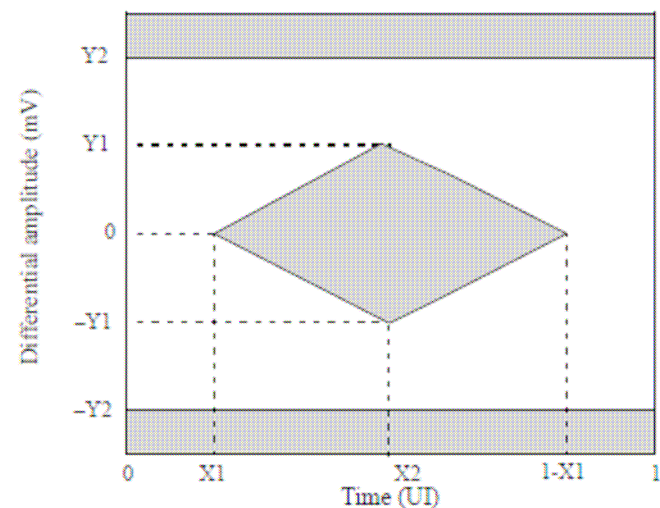


Figure 83A-6—Receiver template

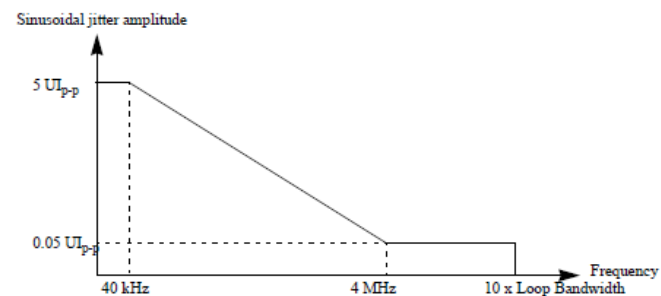


Figure 83A-8—Single-tone Sinusoidal Jitter Mask

Draft Status

- Baseline has been implemented
- TBD Place holders for:
 - nAUI link block diagram
 - Tx Test point
 - Rx Test point
 - Returnloss
 - Reconcile between Annex 69B
 - BER
 - Jitter measurements
 - Receiver performance
 - Eye Mask Measurements
 - Statistical eye adhoc
 - Input Signal Amplitude
 - Place holder (included in XAUI)
 - Characteristic Impedance
 - Place holder (included in XAUI)

Draft Status Continued

- Electrical Measurement Methods
 - Interconnect definition (SDD21 loss limit, crosstalk, returnloss, min loss requirement?)
 - Eye measurement methods
 - Tx Jitter Test
 - Rx Jitter Test
 - Rise/Fall time

Path Forward

- Contributions needed for respective TBDs and open items
- Preference toward leveraging previous IEEE specifications, but improve taking into account learning
 - 802.3ap, 802.3ae, similar style for specifying PPI and XLAUI / CAUI
- Generate consensus at adhoc level prior to submission to larger group