

Update on OIF Statistical Eye

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OIF CEI Compliance

- Transmitter
 - The transmitter must meet specified eye masks & jitter.
- Channel
 - The S parameters of the channel are evaluated with the Stateye tool to determine compliance.
 - Both the forward channel, as well, as any crosstalk channels are evaluated.
- Receiver
 - The receiver must operate with any compliant transmitter and channel.

OIF Stateye Tool

- The Stateye tool is a simulator implemented as a set of Matlab scripts.
- The simulator uses:
 - Worst case Transmitter
 - Minimally Compliant
 - Includes a package model
 - Includes Feed Forward Equalization
 - Injected Crosstalk
 - Based on measured S parameters of aggressor's to channel being evaluated.
 - Measured S Parameters of Channel
 - Simulated Receiver
 - Includes Coupling Capacitor
 - Includes Package
 - Includes Rx Equalizer

OIF Stateye Tool

- The Simulator Output
 - Determination of Channel Compliance
 - Statistical eye at BER of Interest
 - DJ, TJ, Eye Amplitude
 - If the eye opening meets the requirements then the channel is compliant.
 - Informative Information
 - Sddxx Graphs
 - Pulse Response Graph
 - Bit Error Rate Contours
 - Simulated Receive Eye after Rx equalization

Benefits

- Statistical Eye For Signaling Development
 - Open Source
 - **All Participants can validate any & all simulation results**
 - Input, Outputs, and Simulator details visible to all
 - Proponents of a signaling approach develop and contribute any additional functionality required.

Benefits

- Once the Signaling Model is adopted.
- Statistical Eye Can Be Used For Channel Compliance
 - Complete consideration of channel
 - with magnitude, phase, stub effects, and crosstalk
 - Accounts for the ability of the “reference” Transmitter and Receiver to compensate for Channel Imperfections
 - Definitive Executable Specification for Channel Compliance

Stat Eye Background

For further details see:

Using StatEye for IEEE Backplane Evaluation

www.ieee802.org/3/ap/public/signal_adhoc/ghiasi_01_0904.pdf

OIF CEI Specification

www.oiforum.com/public/documents/OIF_CEI_01.0.pdf

StatEye.Org Web Site

www.stateye.org