

# **Signaling Analysis Using IEEE Channel Ad Hoc Templates**

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# Objective

- **Determine Where IEEE Channel is With Respect to OIF Criteria and Use of Stat Eye [ Reference 1 ]**

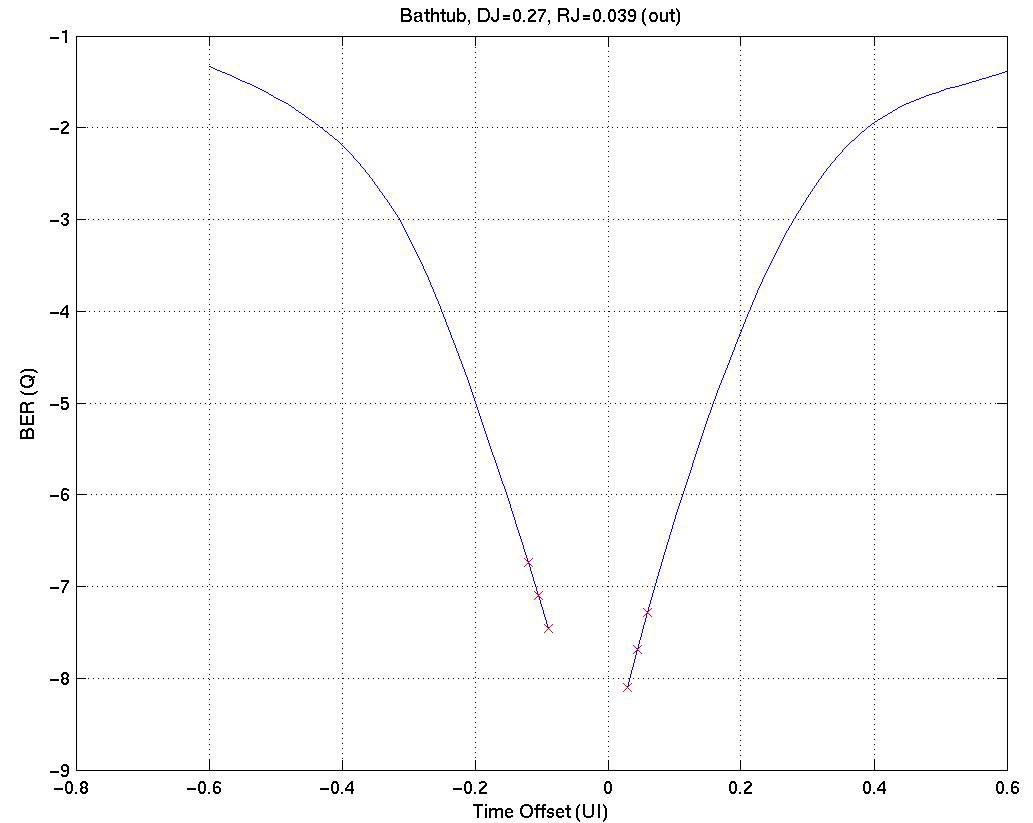
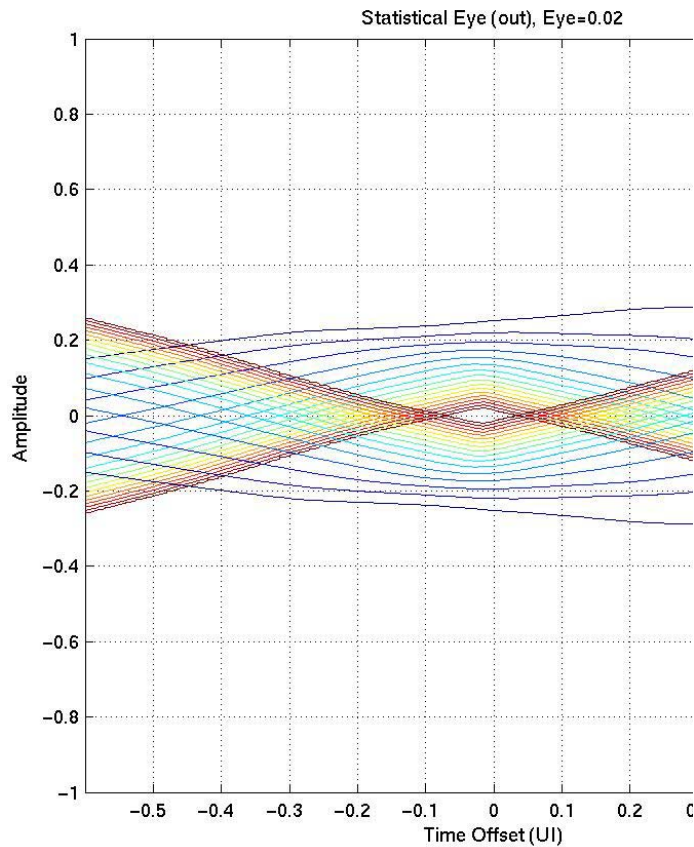
# Analysis Conditions (End-to-End)

- **Varied number of DFE taps**
- **Single Tx pre-tap (removes precursor)**
- **Tx DJ 0.15 UIpp**
- **Tx RJ 0.01 UI RMS**
- **Rx DJ 0.15 UIpp**
- **Rx RJ 0.01 UI RMS**
- **Tx Amplitude 1.0**

# Analysis Conditions Continued

- **Through S-parameters**
  - Synthesized, fitted to IEEE Channel Ad Hoc
- **Crosstalk**
  - NEXT Only, fitted to IEEE Channel Ad Hoc
  - Analyses Done With, Without Crosstalk
- **Stat Eye Version**
  - Version 2.0e
- **Acceptance Criterion**
  - Any Amount of Positive Eye Opening (No Rx Threshold Assumed)

# Example Stat Eye Plots (No Crosstalk)



# Stat Eye Results

Results of Stat Eye Analyses on Channel Fitted to IEEE Templates						
All Analyses Use One Emphasis Pre-tap						
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Conditions:			Results:			
DFE Taps	Signaling	Crosstalk?	DJ	RJ	Eye	
4	NRZ	No	1	0	-0.01	
5	NRZ	No	0.27	0.039	0.02	
5	NRZ	Yes	0.29	0.042	0.01	
6	NRZ	No	0.22	0.038	0.03	
6	NRZ	Yes	0.2	0.043	0.02	

# Conclusion

- **Analyses Using OIF Method Shows IEEE Channel Working With 5-tap DFE + 1 Emphasis Tap (Removes Precursor)**

# Reference and Acknowledgement

- **Statistical Eye Software is provided by StatEye.org Open Forum. The Statistical Eye scripts were originally written by Anthony Sanders, Infineon.**