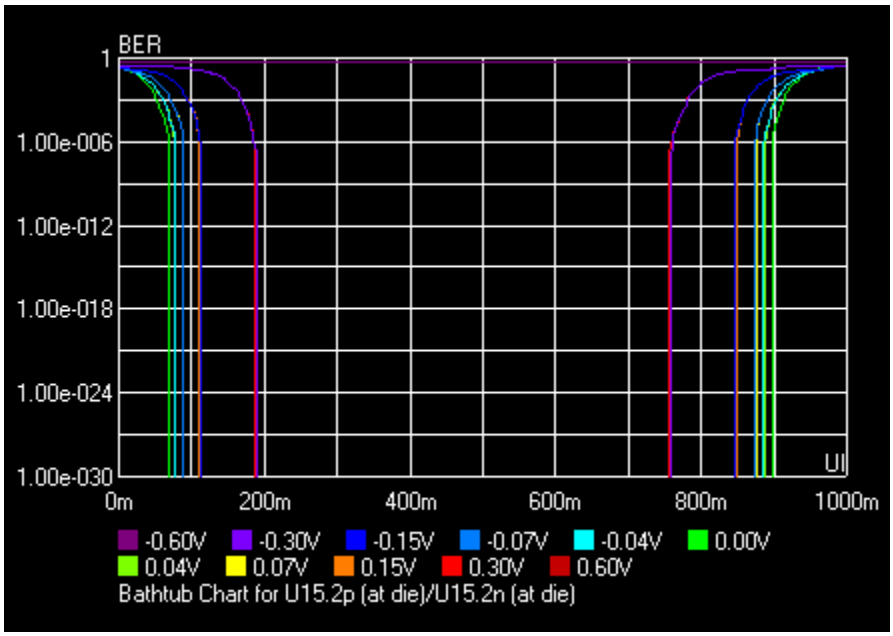
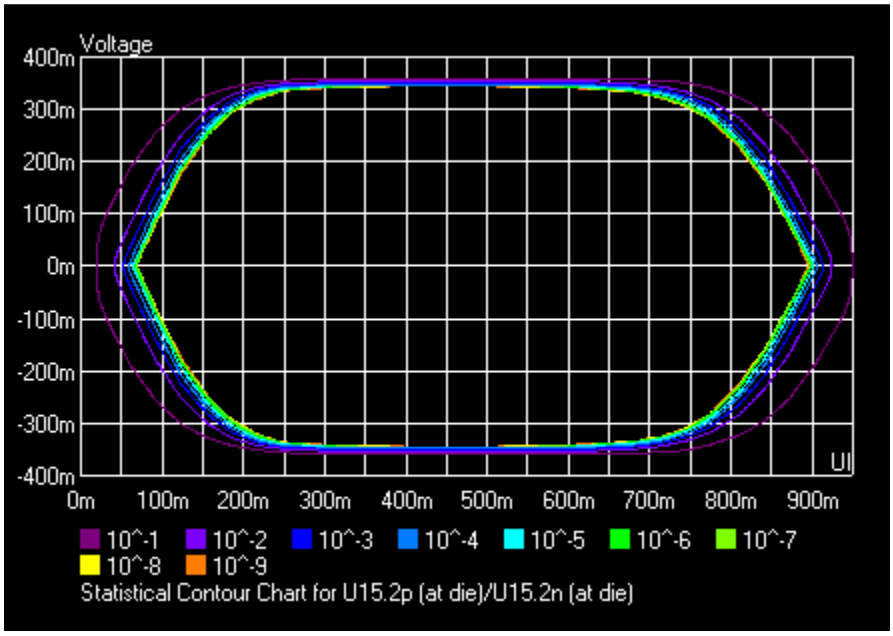
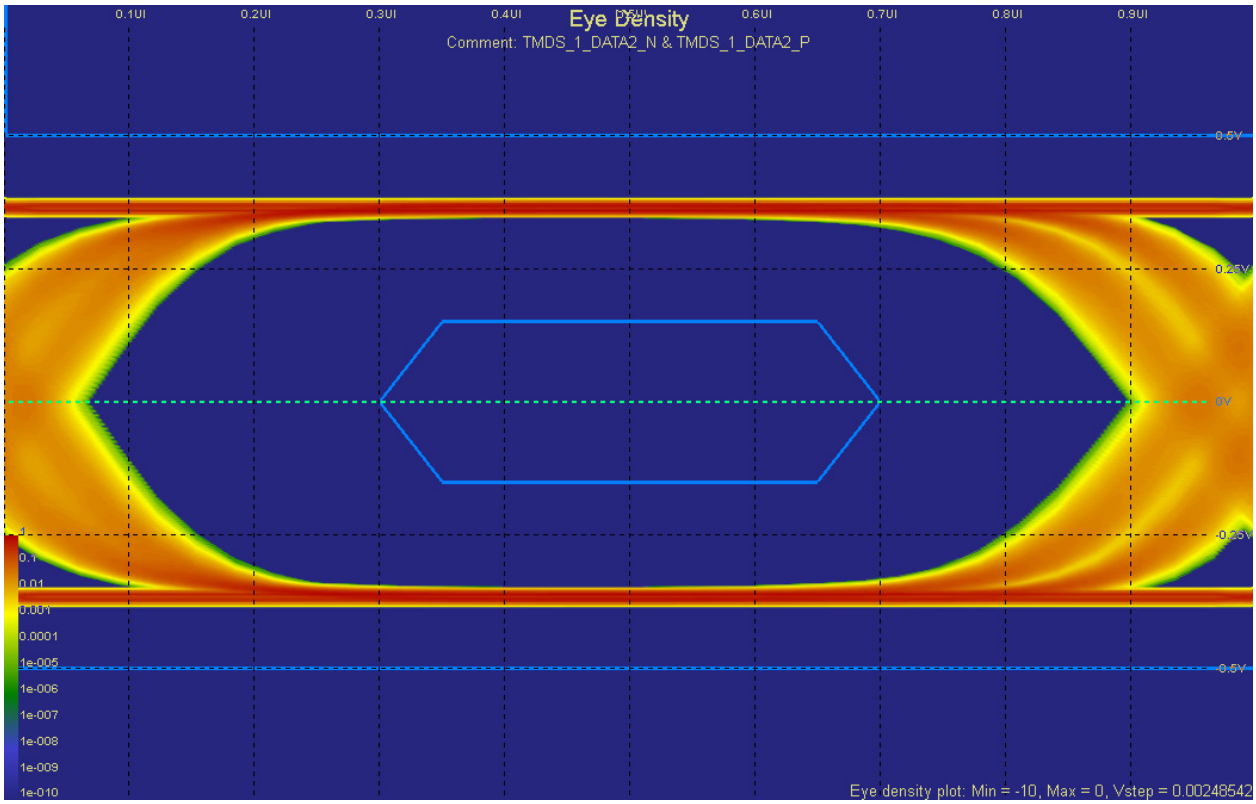
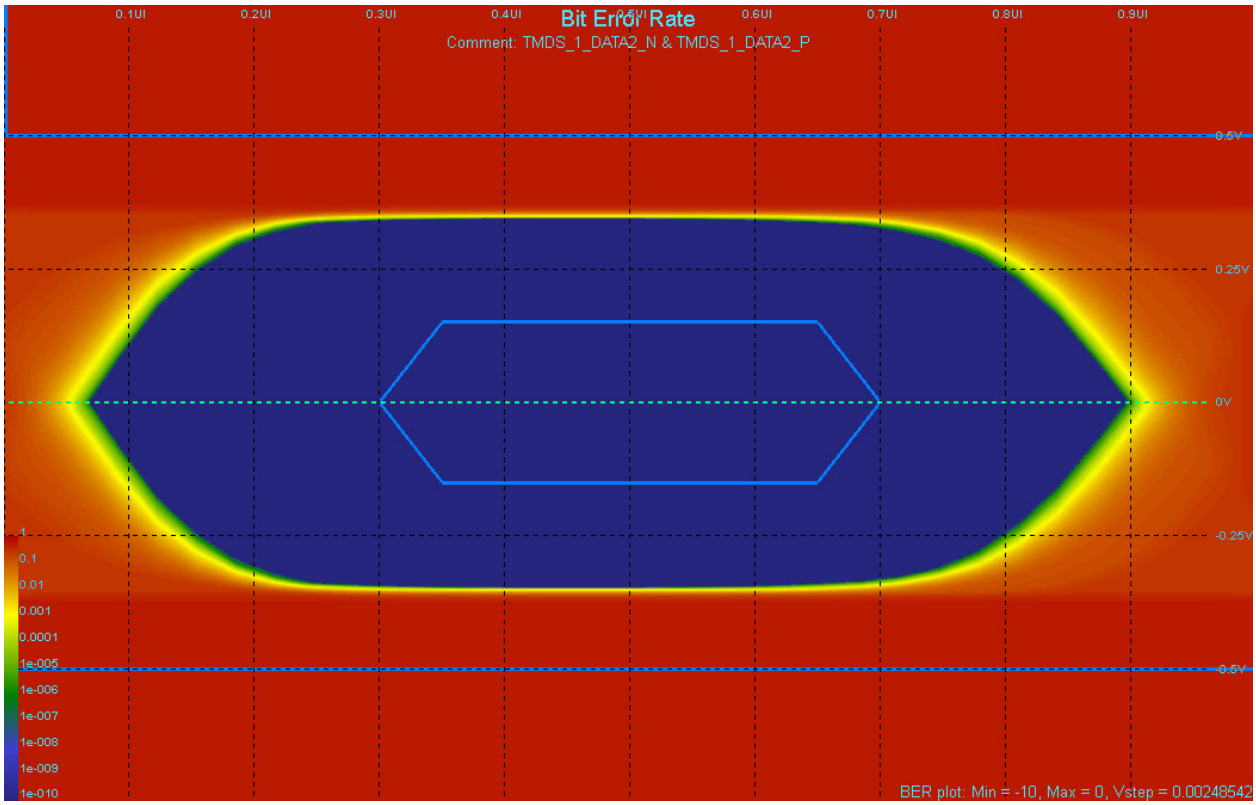
Video Signals at 6Gbps

TMDS_1_DATA2_P & TMDS_1_DATA2_N

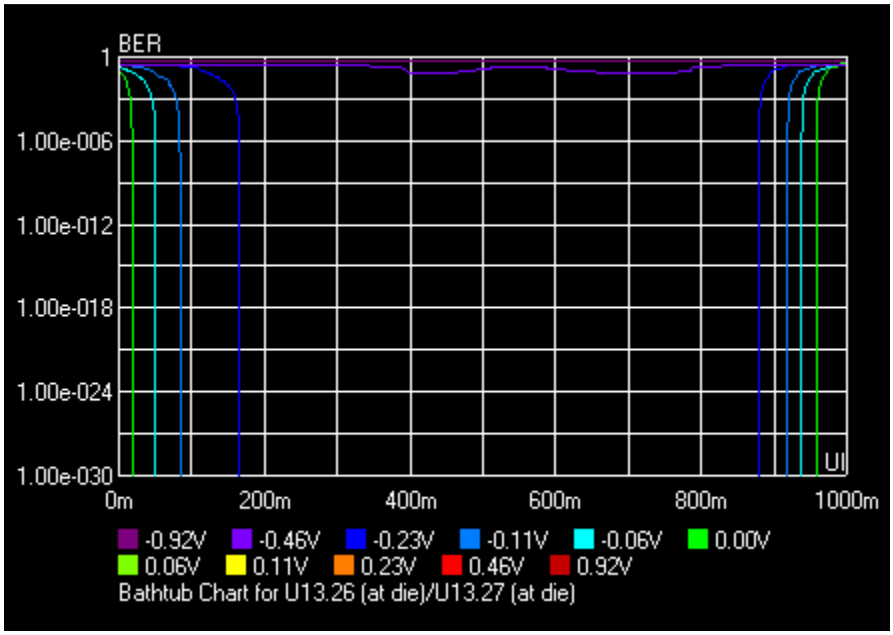


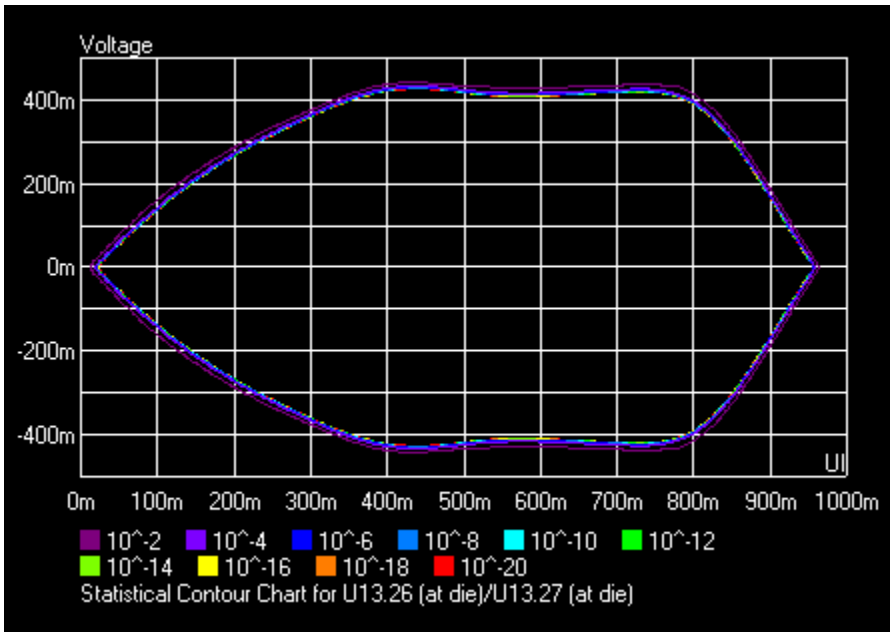


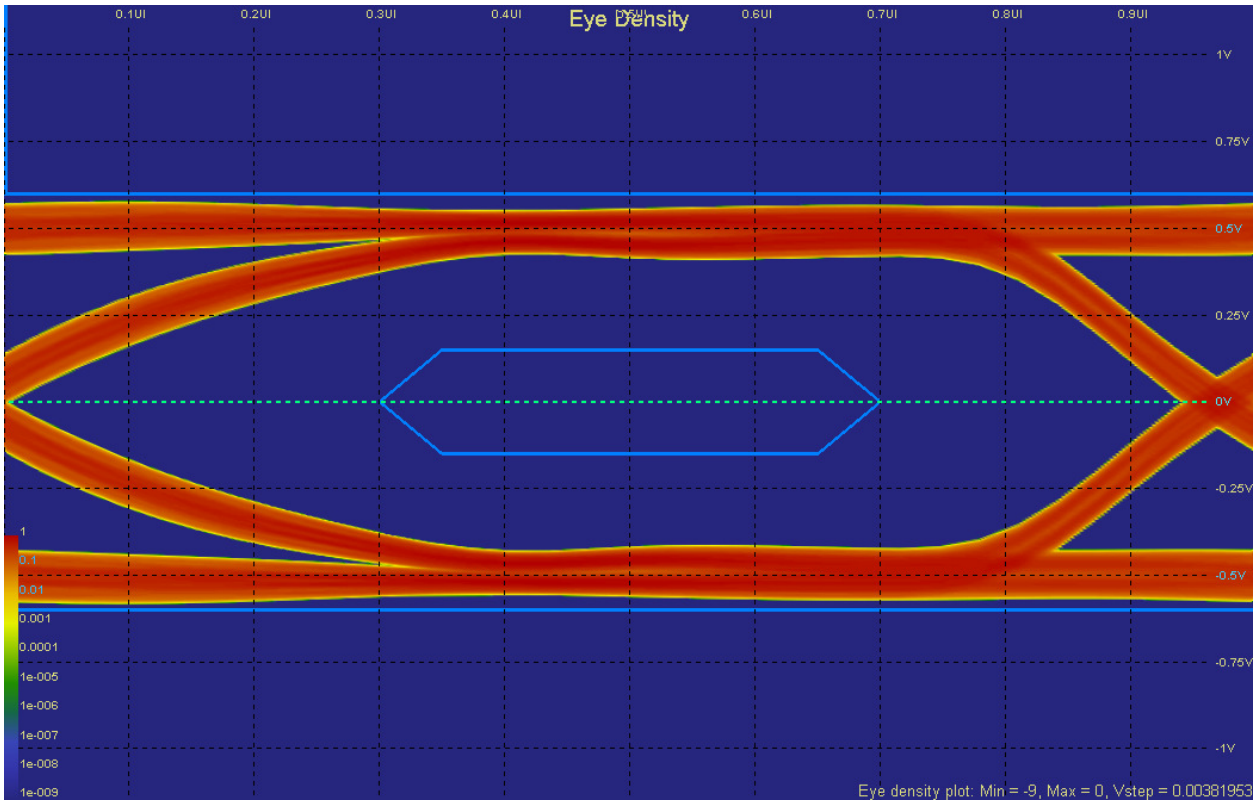

Eye Density
Comment: TMDS_1_DATA2_N & TMDS_1_DATA2_P
0.1UI
0.2UI
0.3UI
0.4UI
0.5UI
0.6UI
0.7UI
0.8UI
0.9UI
0.5V
0.25V
0V
-0.25V
-0.5V
1
0.1
0.01
0.001
0.0001
1e-005
1e-006
1e-007
1e-008
1e-009
1e-010
Eye density plot: Min = -10, Max = 0, Vstep = 0.00248542

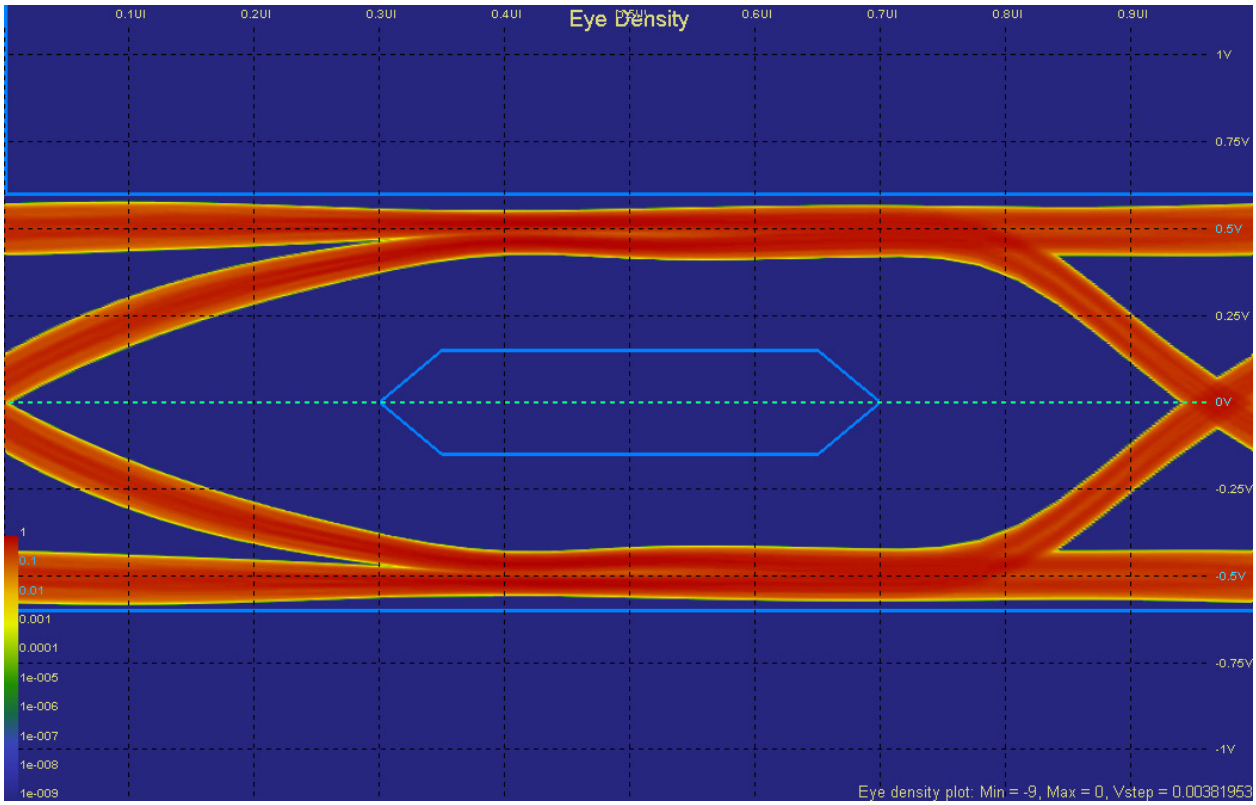

Bit Error Rate
Comment: TMDS_1_DATA2_N & TMDS_1_DATA2_P
0.1UI
0.2UI
0.3UI
0.4UI
0.5UI
0.6UI
0.7UI
0.8UI
0.9UI
0.5V
0.25V
0V
-0.25V
-0.5V
1
0.1
0.01
0.001
0.0001
1e-005
1e-006
1e-007
1e-008
1e-009
1e-010
BER plot: Min = -10, Max = 0, Vstep = 0.00248542

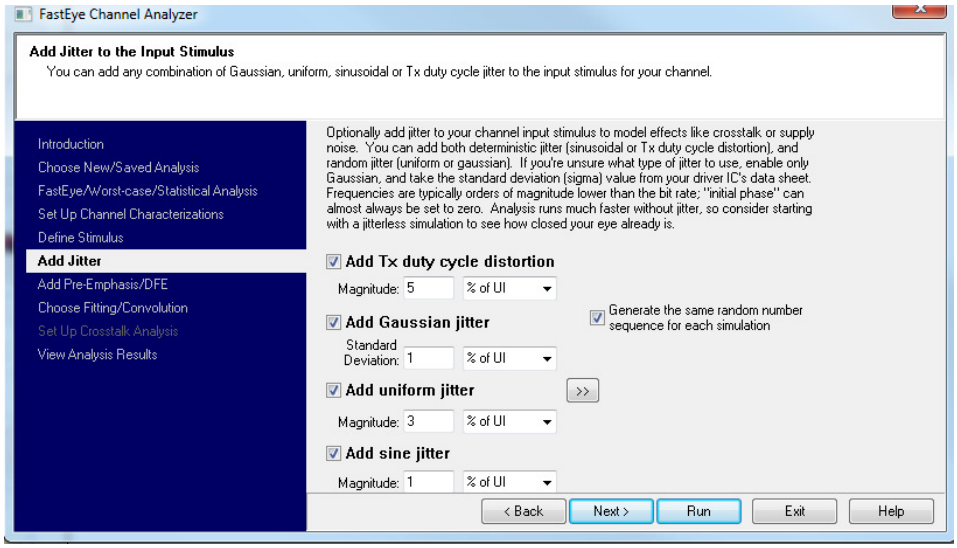
TMDS_1_DATA1_N & TMDS_1_DATA1_P

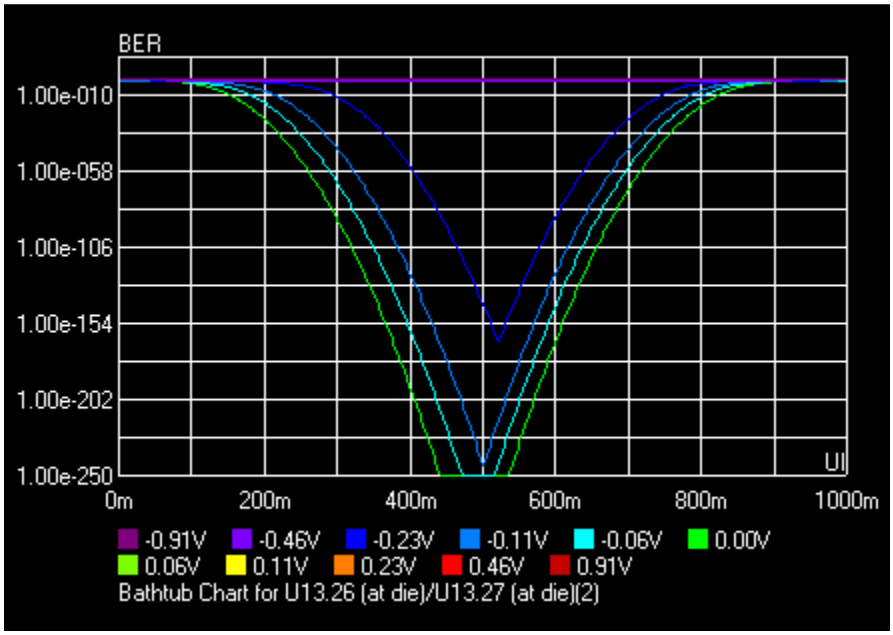


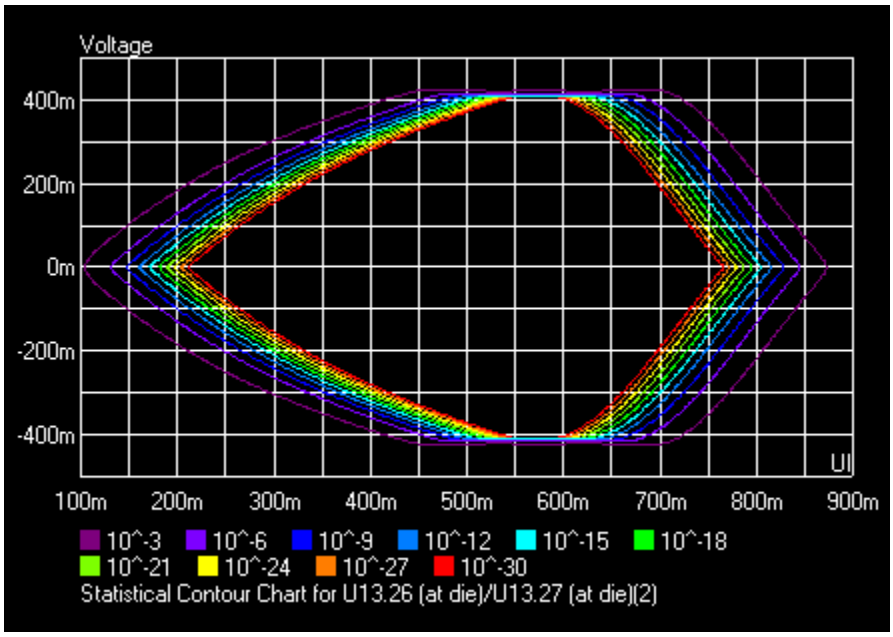


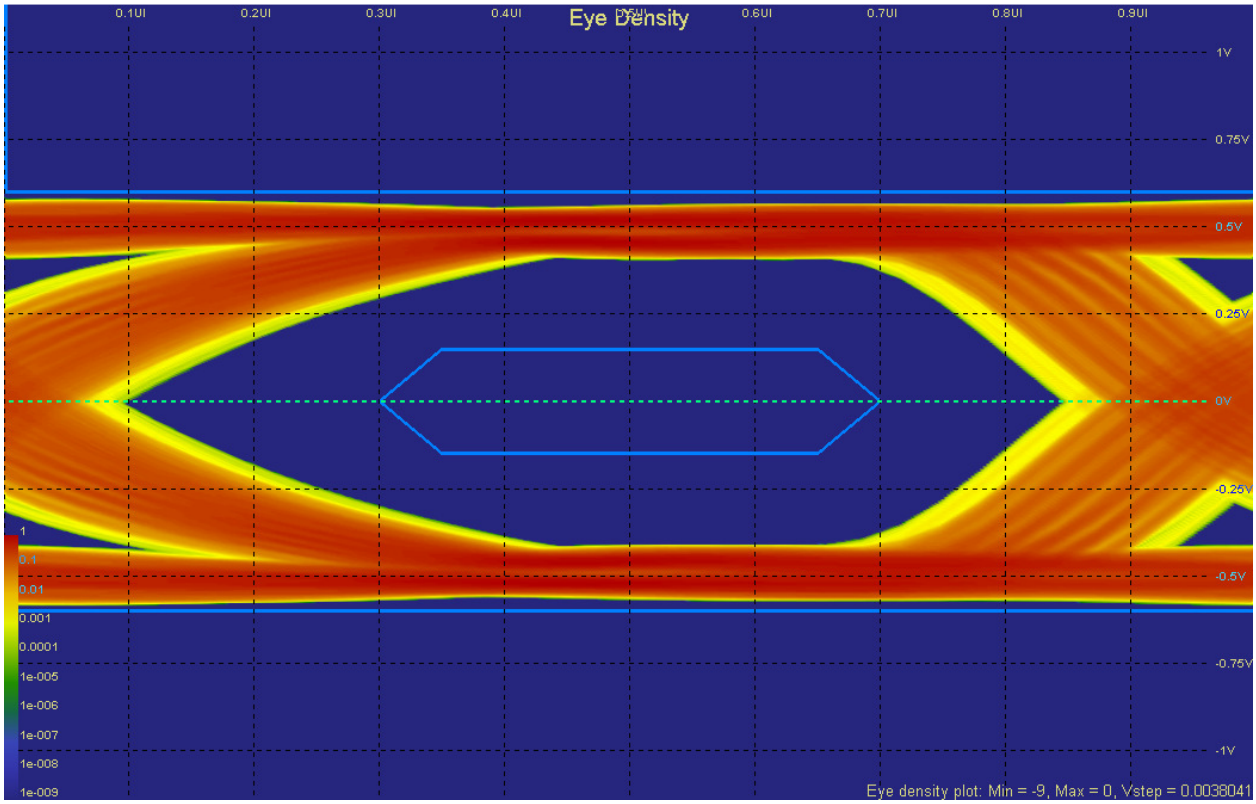

Eye Density
0.1UI
0.2UI
0.3UI
0.4UI
0.5UI
0.6UI
0.7UI
0.8UI
0.9UI
1V
0.75V
0.5V
0.25V
0V
-0.25V
-0.5V
-0.75V
-1V
1
0.1
0.01
0.001
0.0001
1e-005
1e-006
1e-007
1e-008
1e-009
Eye density plot: Min = -9, Max = 0, Vstep = 0.00381953

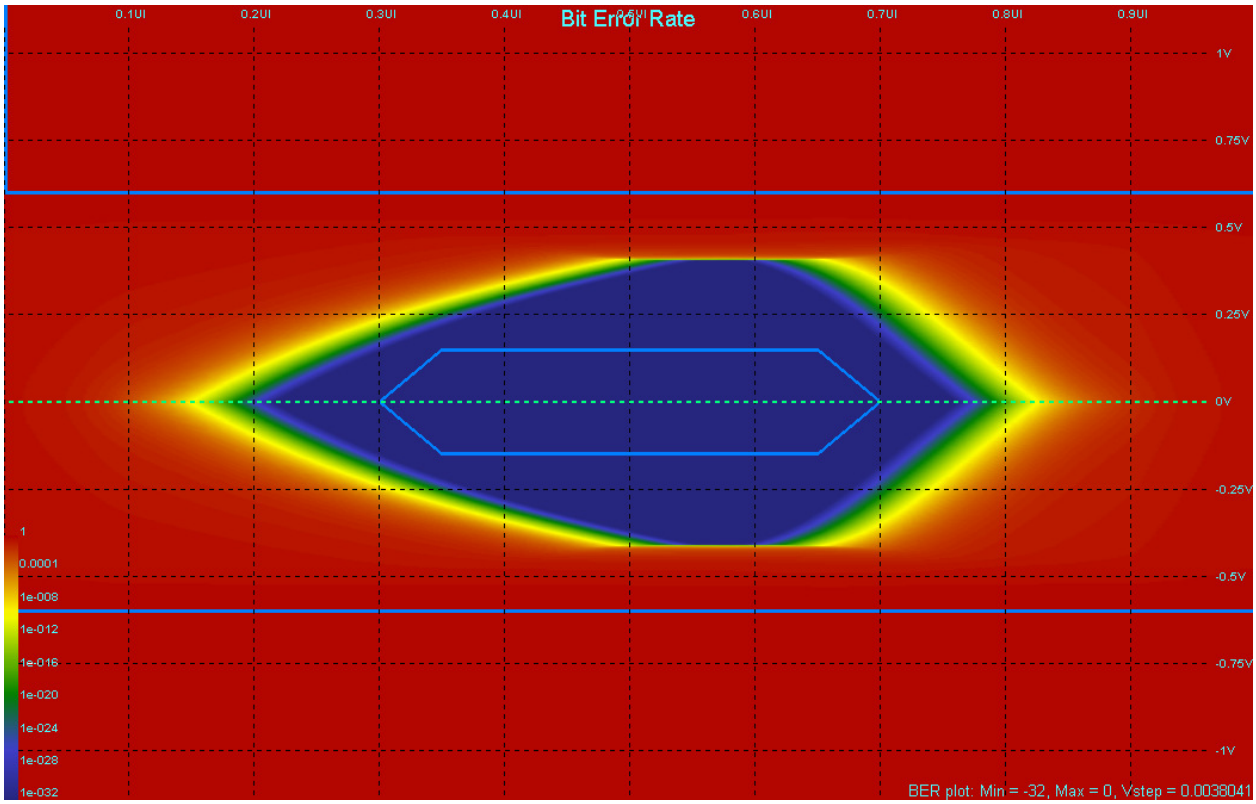

Eye Density
0.1UI
0.2UI
0.3UI
0.4UI
0.5UI
0.6UI
0.7UI
0.8UI
0.9UI
1V
0.75V
0.5V
0.25V
0V
-0.25V
-0.5V
-0.75V
-1V
1
0.1
0.01
0.001
0.0001
1e-005
1e-006
1e-007
1e-008
1e-009
Eye density plot: Min = -9, Max = 0, Vstep = 0.00381953


FastEye Channel Analyzer
Add Jitter to the Input Stimulus
You can add any combination of Gaussian, uniform, sinusoidal or Tx duty cycle jitter to the input stimulus for your channel.
Introduction
Choose New/Saved Analysis
FastEye/Worst-case/Statistical Analysis
Set Up Channel Characterizations
Define Stimulus
Add Jitter
Add Pre-Emphasis/DFE
Choose Fitting/Convolution
Set Up Crosstalk Analysis
View Analysis Results
Optionally add jitter to your channel input stimulus to model effects like crosstalk or supply noise. You can add both deterministic jitter (sinusoidal or Tx duty cycle distortion), and random jitter (uniform or gaussian). If you're unsure what type of jitter to use, enable only Gaussian, and take the standard deviation (sigma) value from your driver IC's data sheet. Frequencies are typically orders of magnitude lower than the bit rate; "initial phase" can almost always be set to zero. Analysis runs much faster without jitter, so consider starting with a jitterless simulation to see how closed your eye already is.
Add Tx duty cycle distortion
Magnitude: 5
% of UI
Add Gaussian jitter
Standard Deviation: 1
% of UI
Generate the same random number sequence for each simulation
Add uniform jitter
>>
Magnitude: 3
% of UI
Add sine jitter
Magnitude: 1
% of UI
< Back
Next >
Run
Exit
Help


BER
1.00e-010
1.00e-058
1.00e-106
1.00e-154
1.00e-202
1.00e-250
UI
0m
200m
400m
600m
800m
1000m
-0.91V
-0.46V
-0.23V
-0.11V
-0.06V
0.00V
0.06V
0.11V
0.23V
0.46V
0.91V
Bathtub Chart for U13.26 (at die)/U13.27 (at die)(2)


Voltage
400m
200m
0m
-200m
-400m
UI
100m
200m
300m
400m
500m
600m
700m
800m
900m
10^-3
10^-6
10^-9
10^-12
10^-15
10^-18
10^-21
10^-24
10^-27
10^-30
Statistical Contour Chart for U13.26 (at die)/U13.27 (at die)(2)


Eye Density
0.1UI
0.2UI
0.3UI
0.4UI
0.6UI
0.7UI
0.8UI
0.9UI
1V
0.75V
0.5V
0.25V
0V
-0.25V
-0.5V
-0.75V
-1V
1
0.1
0.01
0.001
0.0001
1e-005
1e-006
1e-007
1e-008
1e-009
Eye density plot: Min = -9, Max = 0, Vstep = 0.0038041


Bit Error Rate
0.1UI
0.2UI
0.3UI
0.4UI
0.5UI
0.6UI
0.7UI
0.8UI
0.9UI
1V
0.75V
0.5V
0.25V
0V
-0.25V
-0.5V
-0.75V
-1V
1
0.0001
1e-008
1e-012
1e-016
1e-020
1e-024
1e-028
1e-032
BER plot: Min = -32, Max = 0, Vstep = 0.0038041