

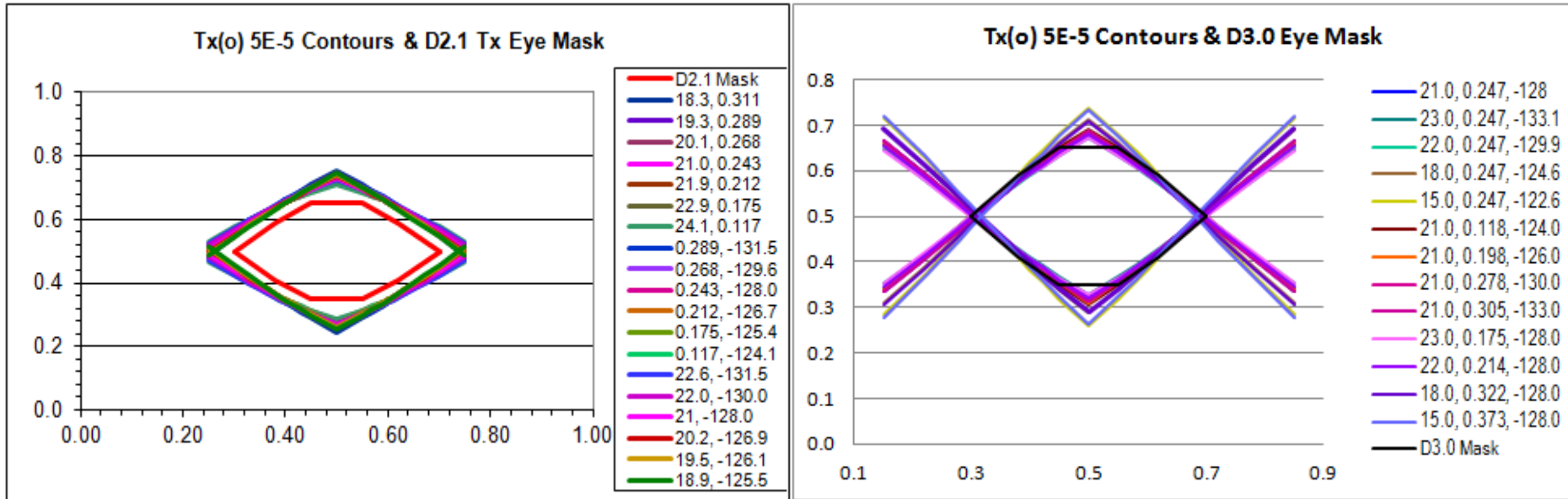
100G SR4 & Scope Noise

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Presentation Summary

- After the May 2014 meeting, the assumptions on which link model analyses were based were reviewed. One assumption, the sensitivity of the reference receiver (Ref Rx) based on the input noise of the expected 19.3 GHz optical plug-in, was found to be unrealistically optimistic. An RMS dark input noise of 4.5 μ W was assumed; 17 uW is now expected.
- Attributes affected by the Ref Rx sensitivity includes transmitter eye mask coordinates, transmitter vertical eye closure sampling point and limit and stressed receiver eye mask coordinates.
- Information regarding transmitter eye mask coordinates and transmitter vertical eye closure sampling point and limit is presented.

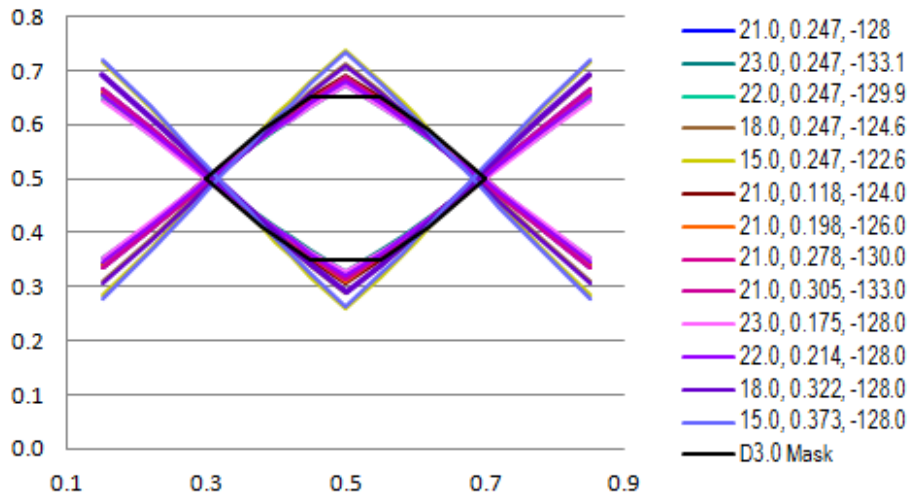
Ref Rx Sensitivity & Observed Tx 5E-5 Contours



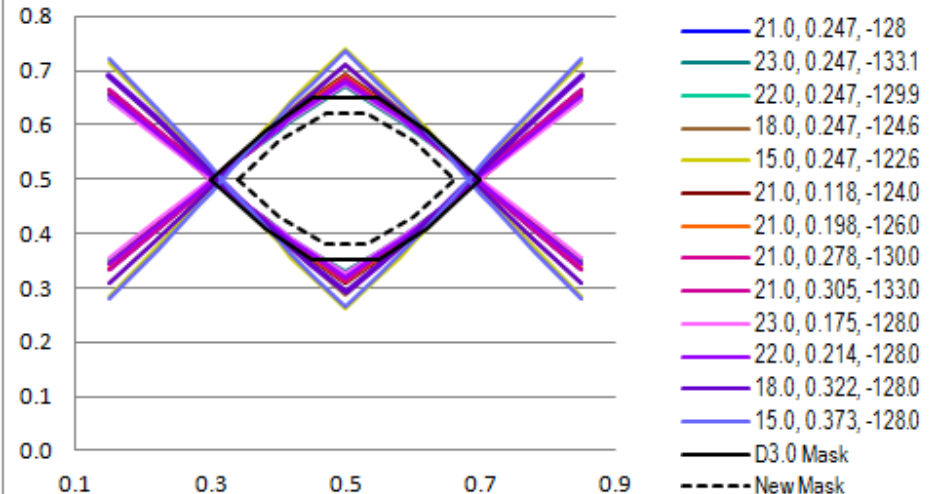
- The chart on the left shows the expected observed Tx TP2 5E-5 contours for a set of worst case transmitters at the time of the March 2014 meeting with the eye mask that is used in Draft 3.0. These contours were based on an expected oscilloscope dark RMS input noise of 4.5 uW for a 19.3 GHz optical plug-in. Since then the expectation for dark RMS input noise has changed to 17 uW.
- The chart on the right shows expected observed Tx TP2 5E-5 contours for a set of worst case transmitters based on a scope with an expected dark RMS input noise of 17 uW for a 19.3 GHz optical plug-in. None of the worst case contours will pass the currently defined eye mask.
- A new mask is proposed on the following page.

Ref Rx Sensitivity & Tx Eye Mask Coordinates

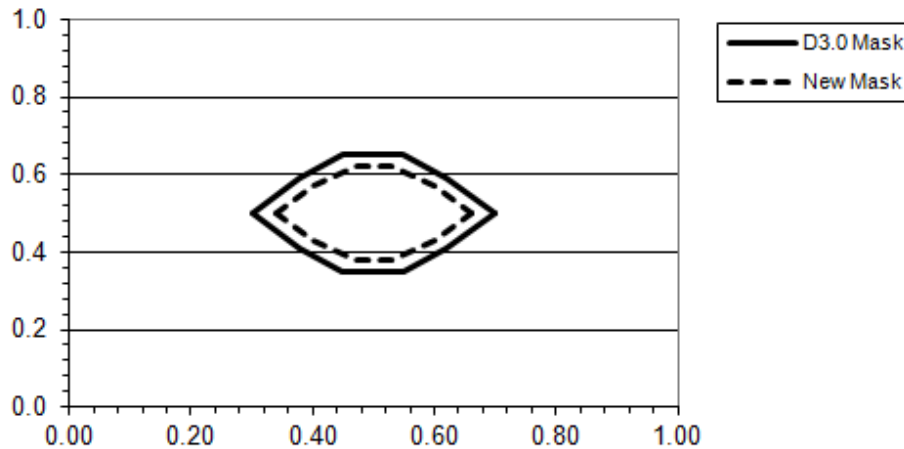
Tx(o) 5E-5 Contours & D3.0 Eye Mask



Tx(o) 5E-5 Contours & D3.0 Eye Mask

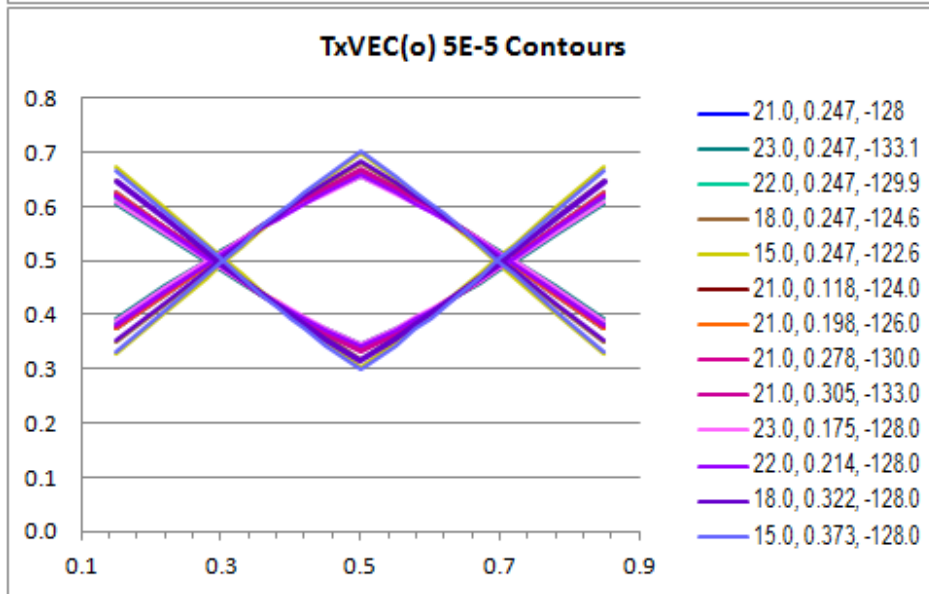
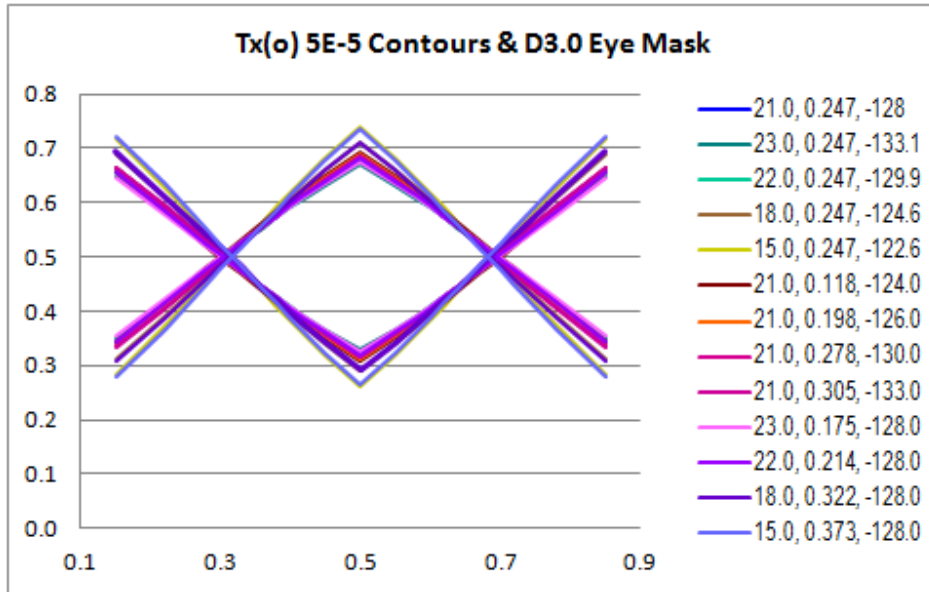


5E-5 Tx(o) Inner Eye Mask: D3.0 & New



- The chart on the upper left repeats a chart from the prior page.
- The charts on the upper right and lower left show a newly proposed Tx eye mask that accounts for the currently expected oscilloscope input noise.
- Inner eye mask coordinates X1, X2, X3, Y1, Y2, Y3
 Draft 3.0: 0.30, 0.38, 0.45, 0.35, 0.41
 New: 0.34, 0.40, 0.47, 0.38, 0.43

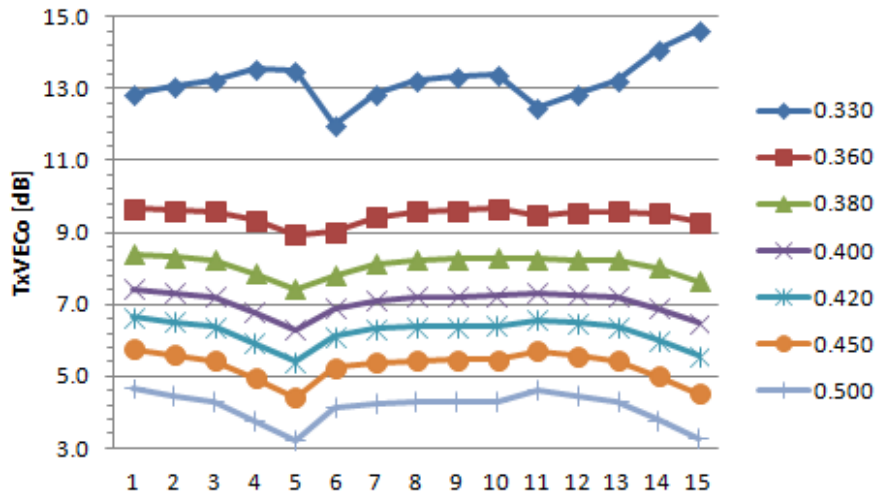
Ref Rx Sensitivity & BW & Observed Tx 5E-5 Contours



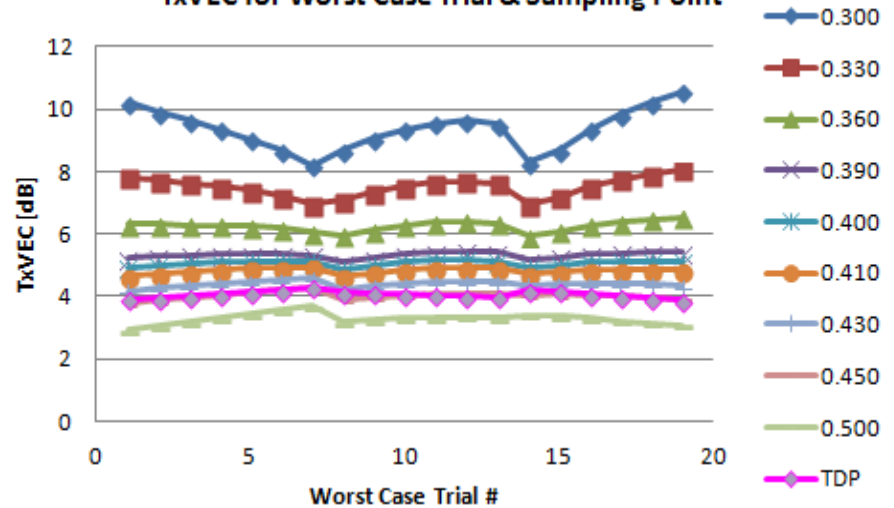
- The upper chart repeats a chart from the prior page (without the eye mask) showing expected observed Tx TP2 5E-5 contours for a set of worst case transmitters based on a scope with an expected dark RMS input noise of 17 uW for a 19.3 GHz optical plug-in.
- The lower chart shows expected observed Tx TP2 5E-5 contours for the set of worst case transmitters based on a scope with an expected dark RMS input noise of 9 uW for a 12.6 GHz optical plug-in.
- The reduced input scope noise for the 12.6 GHz optical plug-in relative to that of the 19.3 GHz provides a reasonable eye opening even after the lower bandwidth filter.

Ref Rx Sensitivity & BW & TxVEC

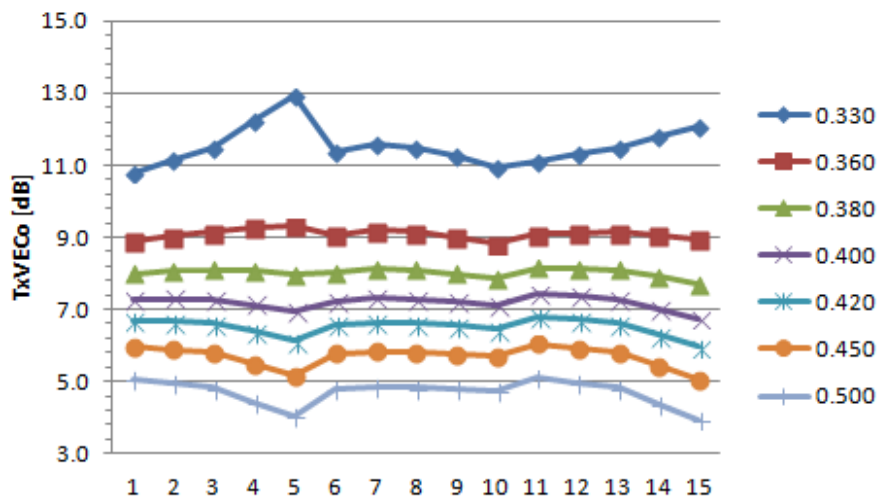
TxVECo(19.3GHz) for Worst Case Trial & Sampling Point



TxVEC for Worst Case Trial & Sampling Point



TxVECo(12.6GHz) for Worst Case Trial & Sampling Point



- The upper-left chart shows expected observed vertical eye closure, VECo, for various sampling points from a set of worst case transmitters based on a scope with an expected dark RMS input noise of 17 uW for a 19.3 GHz optical plug-in.

- The lower-left chart shows expected observed vertical eye closure, VECo, for various sampling points from a set of worst case transmitters based on a scope with an expected dark RMS input noise of 9 uW for a 12.6 GHz optical plug-in. Here the lowest variation is seen at the 0.38 UI sampling point. For this sampling point a maxTxVEC(12.6GHz) of 7.7 dB may be appropriate.

- The upper-right chart shows for reference the expectations at the time of the March 2014 meeting