# LSI LOGIC ®

4420 ArrowsWest Drive
Colorado Springs, CO  80907

Jan 16, 2001

To:      T10 Technical Committee
From:   William Petty, LSI Logic Corp.
Subj:    **Actual Pre-Compensation Eye Diagrams**

The following data is taken from actual silicon drivers and measured at the worst point on the following segment configurations.  It shows the effect that various levels of pre-compensation have on the received waveforms.

## Equipment Setup:

HP 81110A Pattern Generator
        PRBP (Pseudo Random Bit Pattern) = $2^n - 1$   (n=7)
        Subject bit = DB9
        Aggressors = DB8 and DB10 driven with random phase relative to DB9
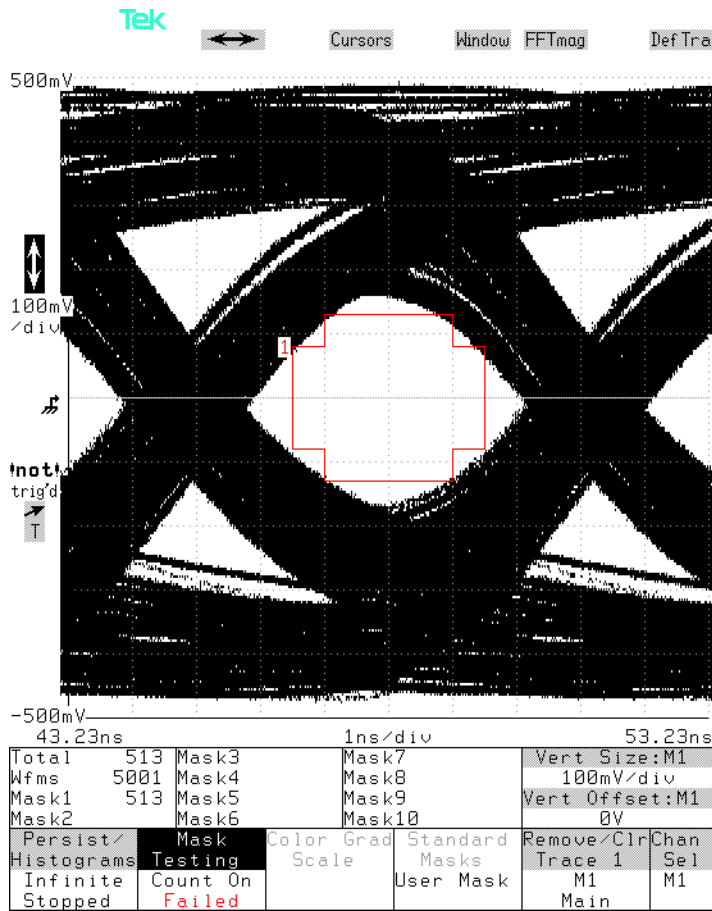
Tektronix 11801A Digital Sampling Scope (20GHz)
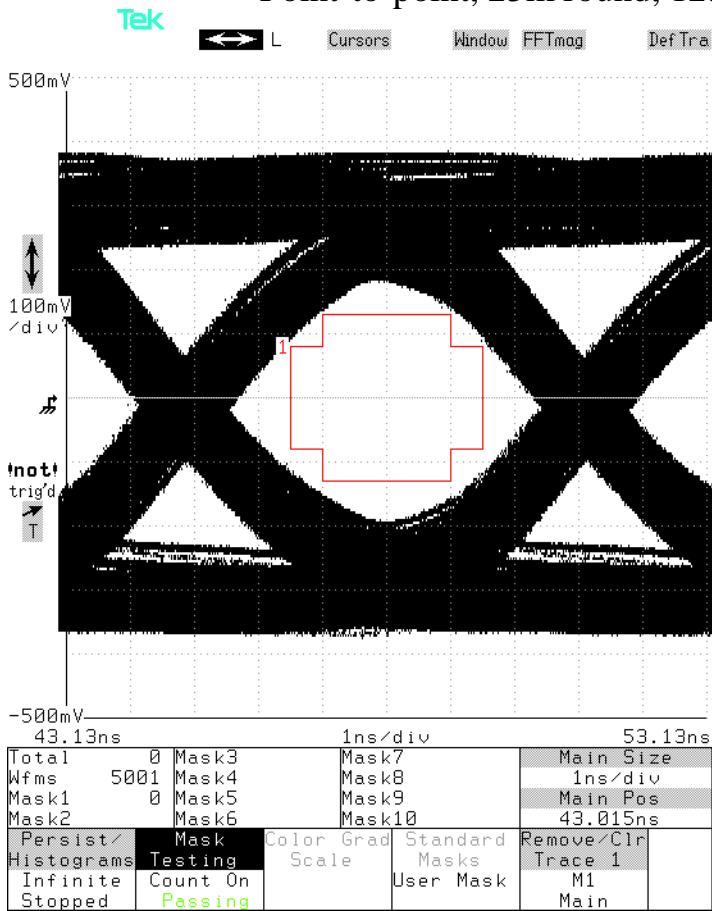        Probes = P6248 differential (1.7GHz)

## Configurations:
1. Point to point cable = Hitachi 25m round (HCM 48783)
2. 1m round Madison cable (28 AWG) to backplane (10 drive, slot 4)
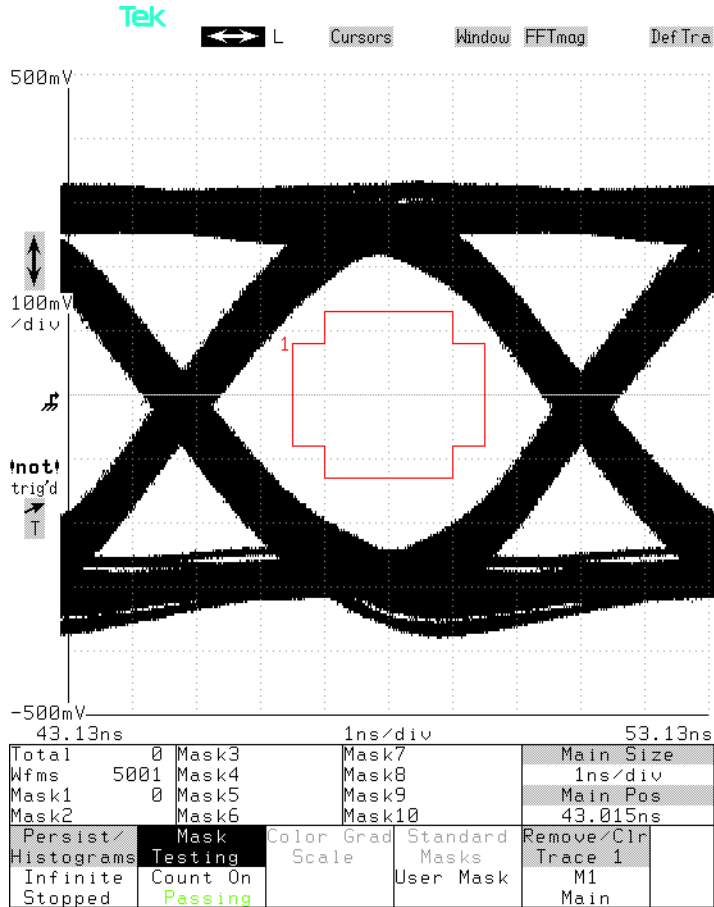3. 12m flat Hitachi cable (E15369) to backplane (10 drive, slot 4)

Point-to-point, 25m round, no precomp

Tek ↔ Cursors Window FFTmag DefTra

500mV

100mV
/div

not
trig'd

-500mV
43.23ns 1ns/div 53.23ns

| Total | 513 | Mask3 | Mask7 | Vert Size:M1 |
| Wfms | 5001 | Mask4 | Mask8 | 100mV/div |
| Mask1 | 513 | Mask5 | Mask9 | Vert Offset:M1 |
| Mask2 | | Mask6 | Mask10 | 0V |

| Persist/ | Mask | Color Grad | Standard | Remove/Clr | Chan |
| Histograms | Testing | Scale | Masks | Trace 1 | Sel |
| Infinite | Count On | | User Mask | M1 | M1 |
| Stopped | Failed | | | Main | |

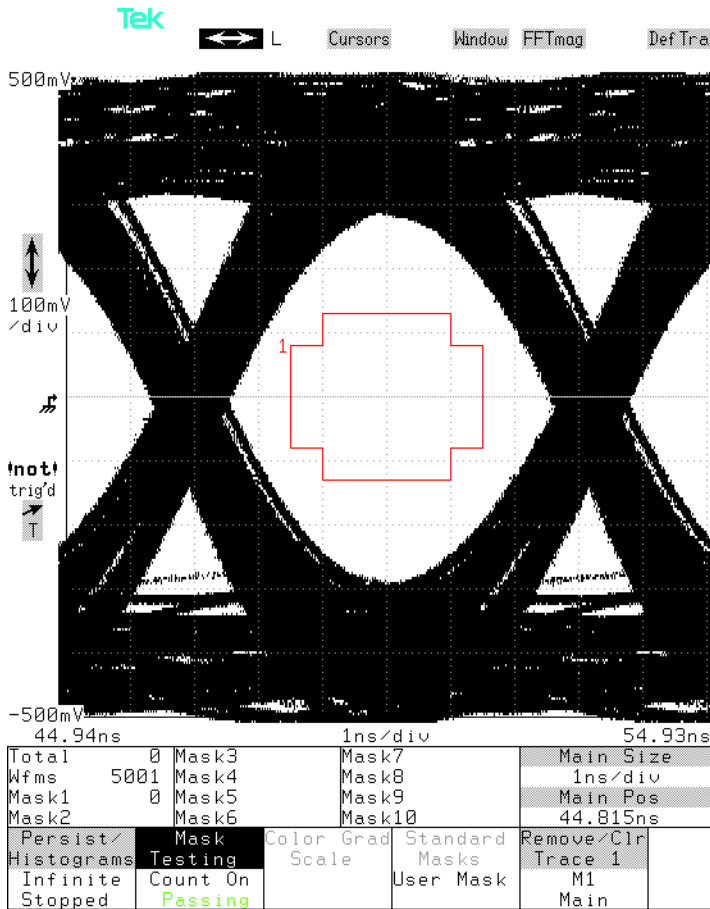# Point-to-point, 25m round, 12.5% precomp

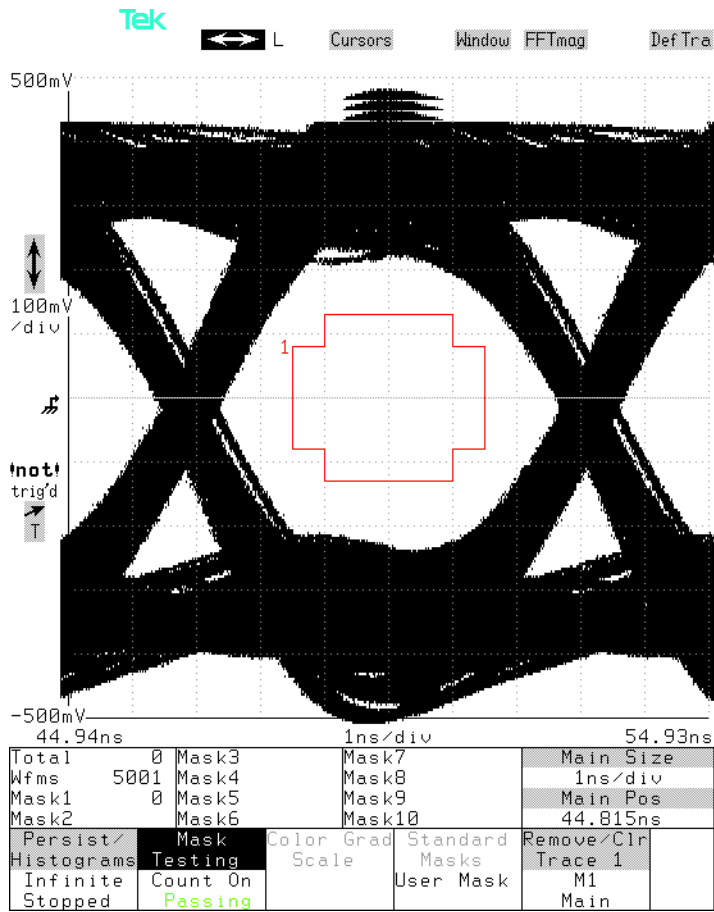# Point-to-point, 25m round, 25% precomp
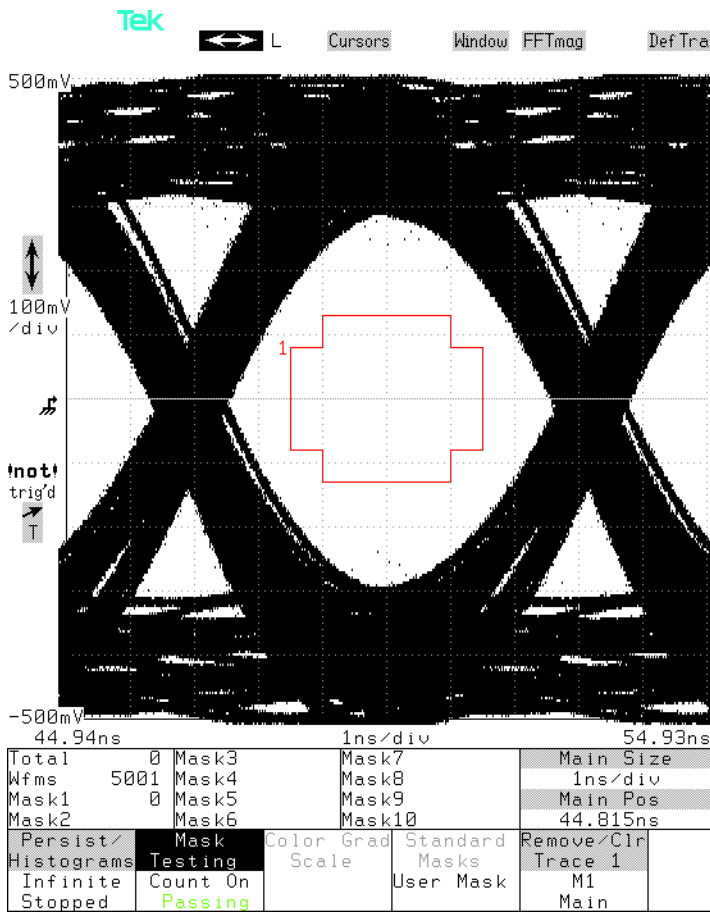
Point-to-point, 25m round, 33% precomp
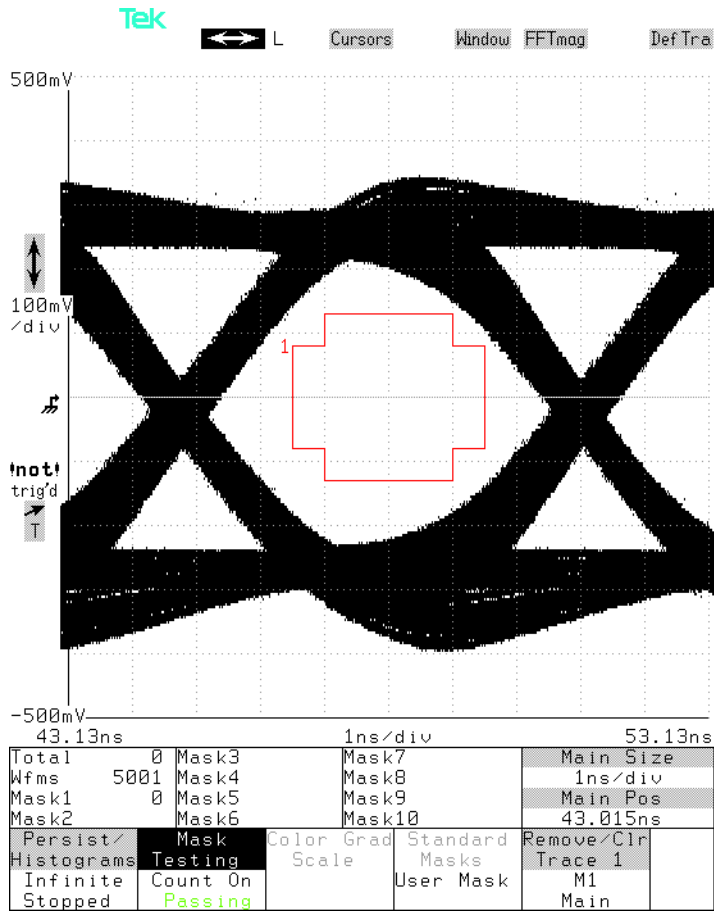
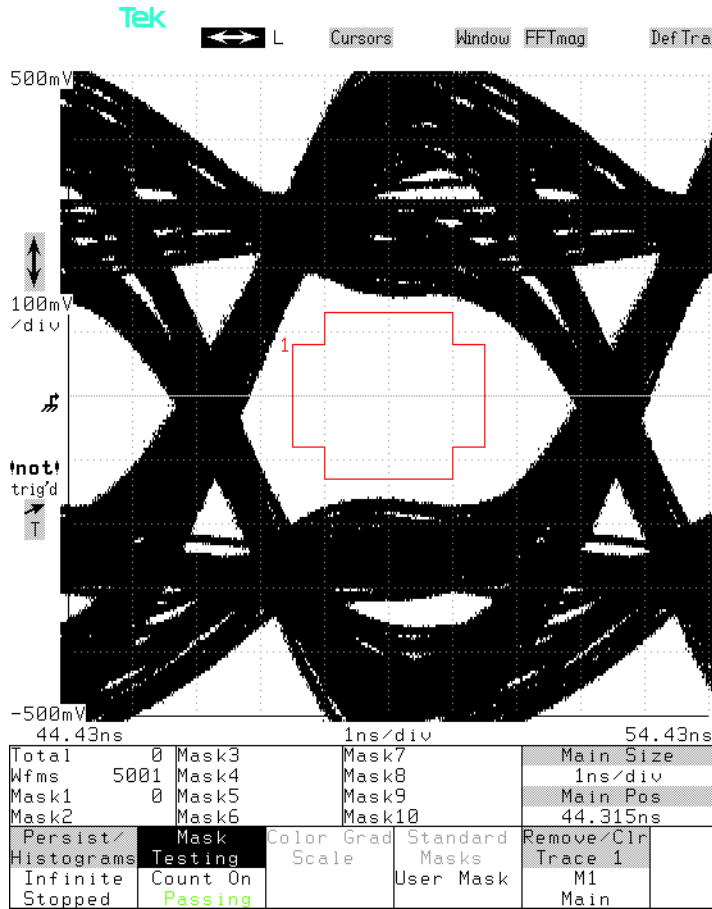# 10 Drive backplane, 12m flat, no precomp

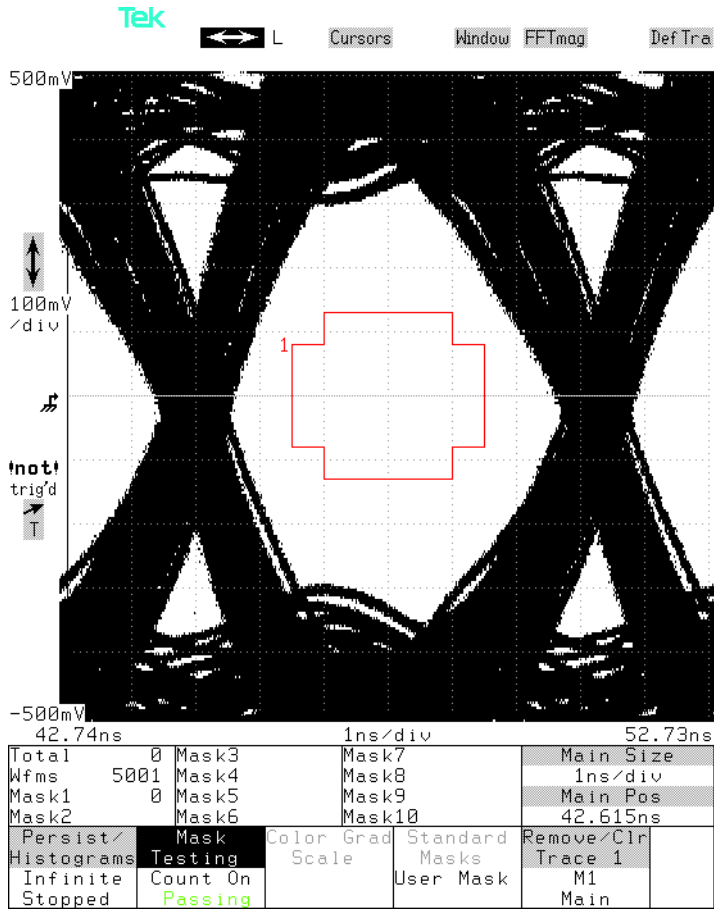## 10 Drive backplane, 12m flat, 12.5% precomp

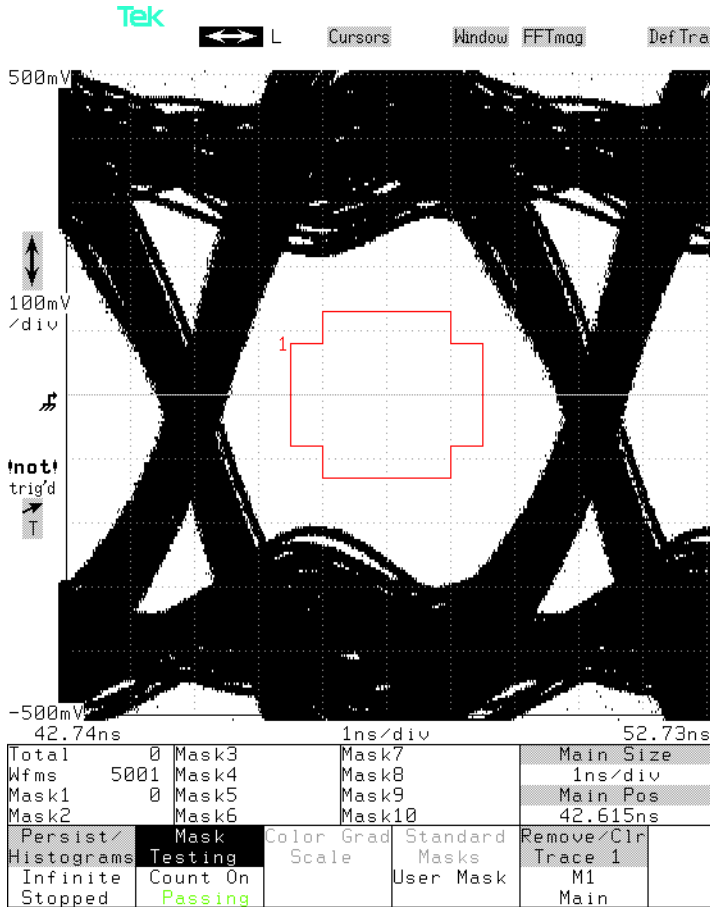## 10 Drive backplane, 12m flat, 25% precomp

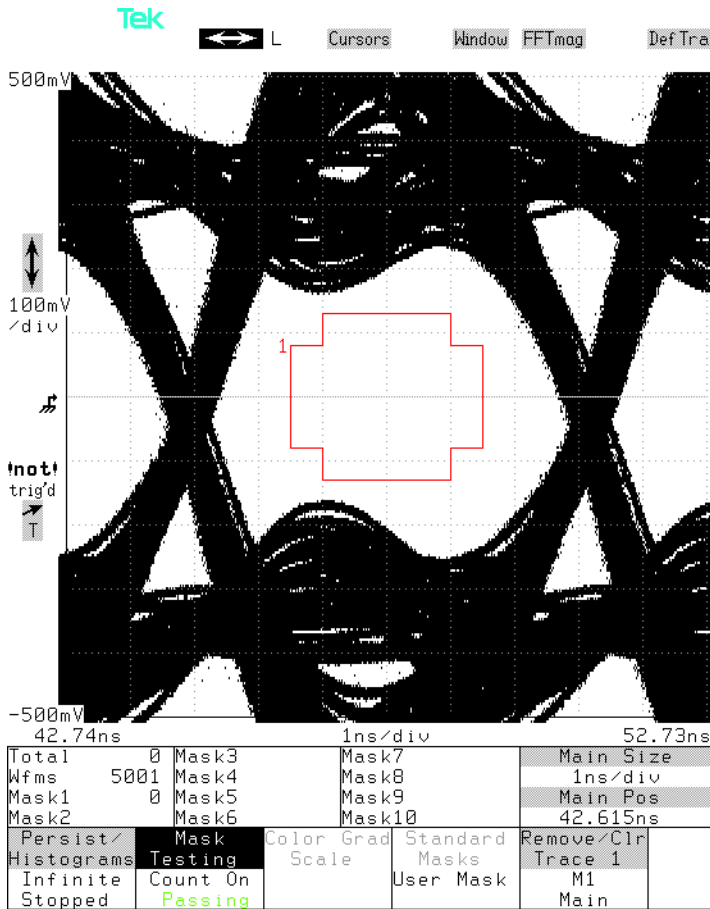## 10 Drive backplane, 12m flat, 33% precomp

## 10 Drive backplane, 1m round, no precomp

## 10 Drive backplane, 1m round, 12.5% precomp

## 10 Drive backplane, 1m round, 25% precomp

## 10 Drive backplane, 1m round, 33% precomp