

OFC 2020

400G Optical PAM4 TDECQ Test



400G Testing AND Beyond

400G Optical PAM4 TDECQ Test

Signal Quality Analyzer-R
MP1900A
PAM4 PPG



BERTWave
MP2110A
TDECQ Test



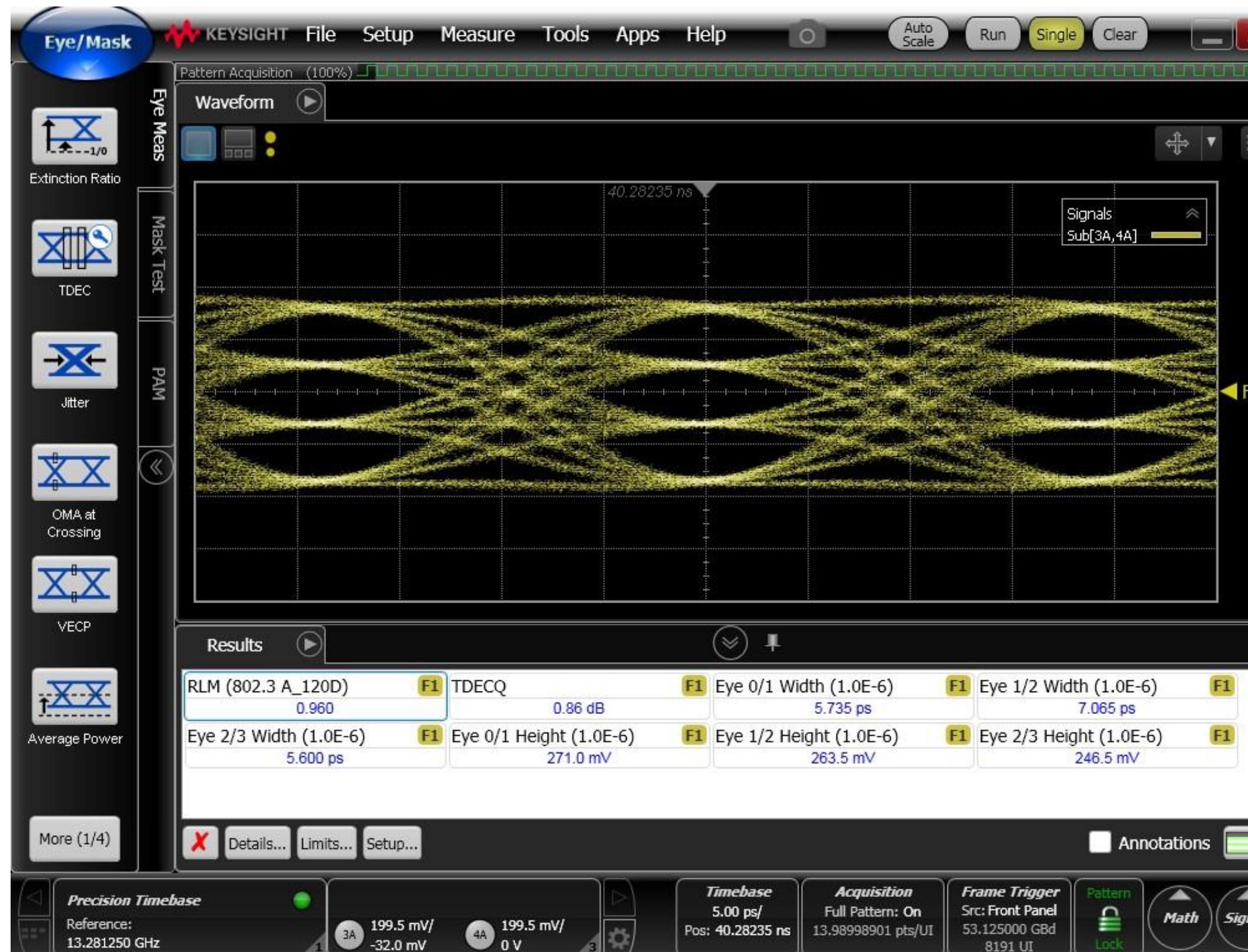
ThorLabs MX65E-1310
Linear Reference Transmitter

Automated feedback equalization

High Quality Waveform PAM4 PPG MU196020A

World best electrical performance for TDECQ evaluation of optical Tx

53.125Gbaud

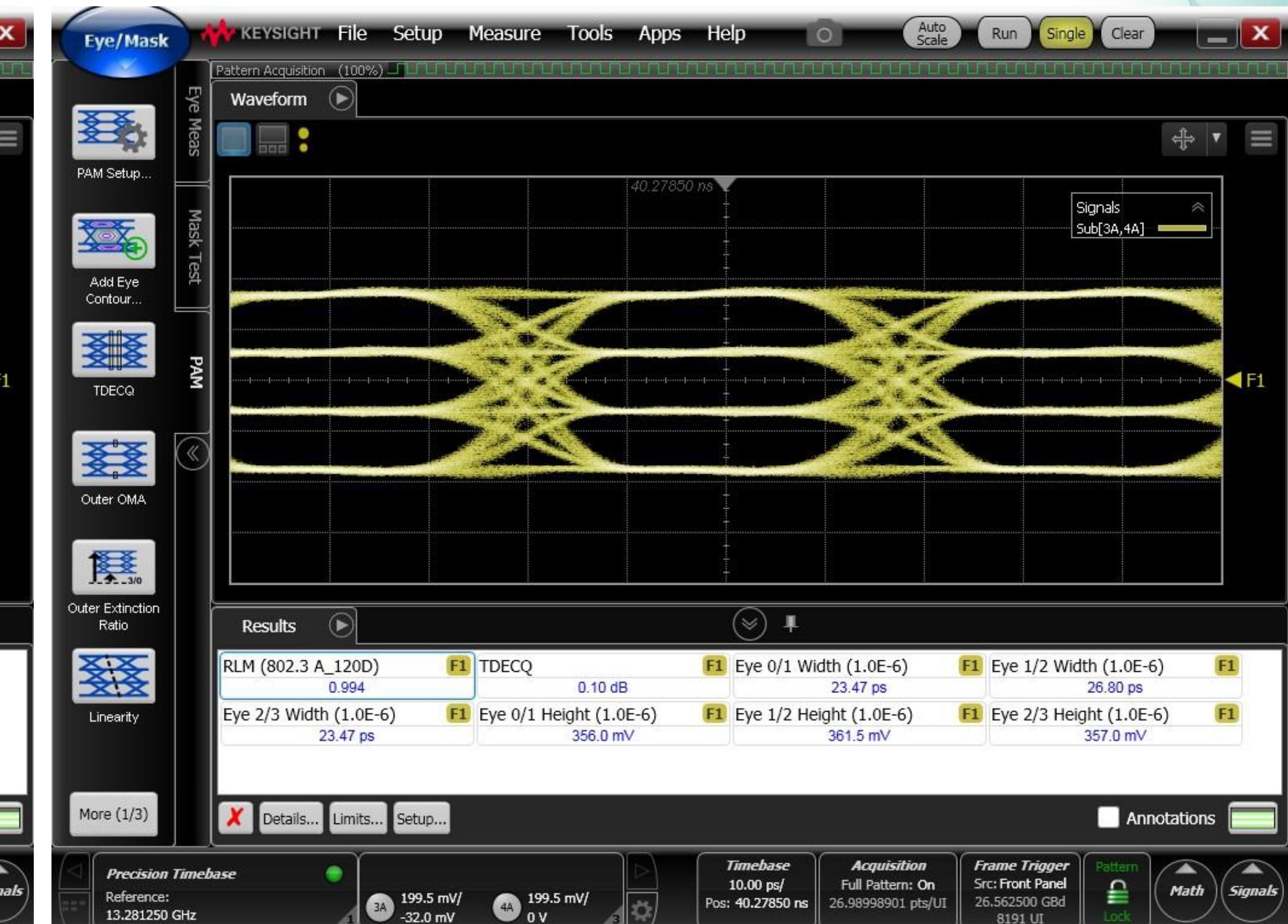


Electrical TDECQ: 0.86 dB

RLM: 0.96

Eye width: 5.7 ps(0/1), 7.1 ps(1/2), 5.6 ps(2/3)

26.5625Gbaud

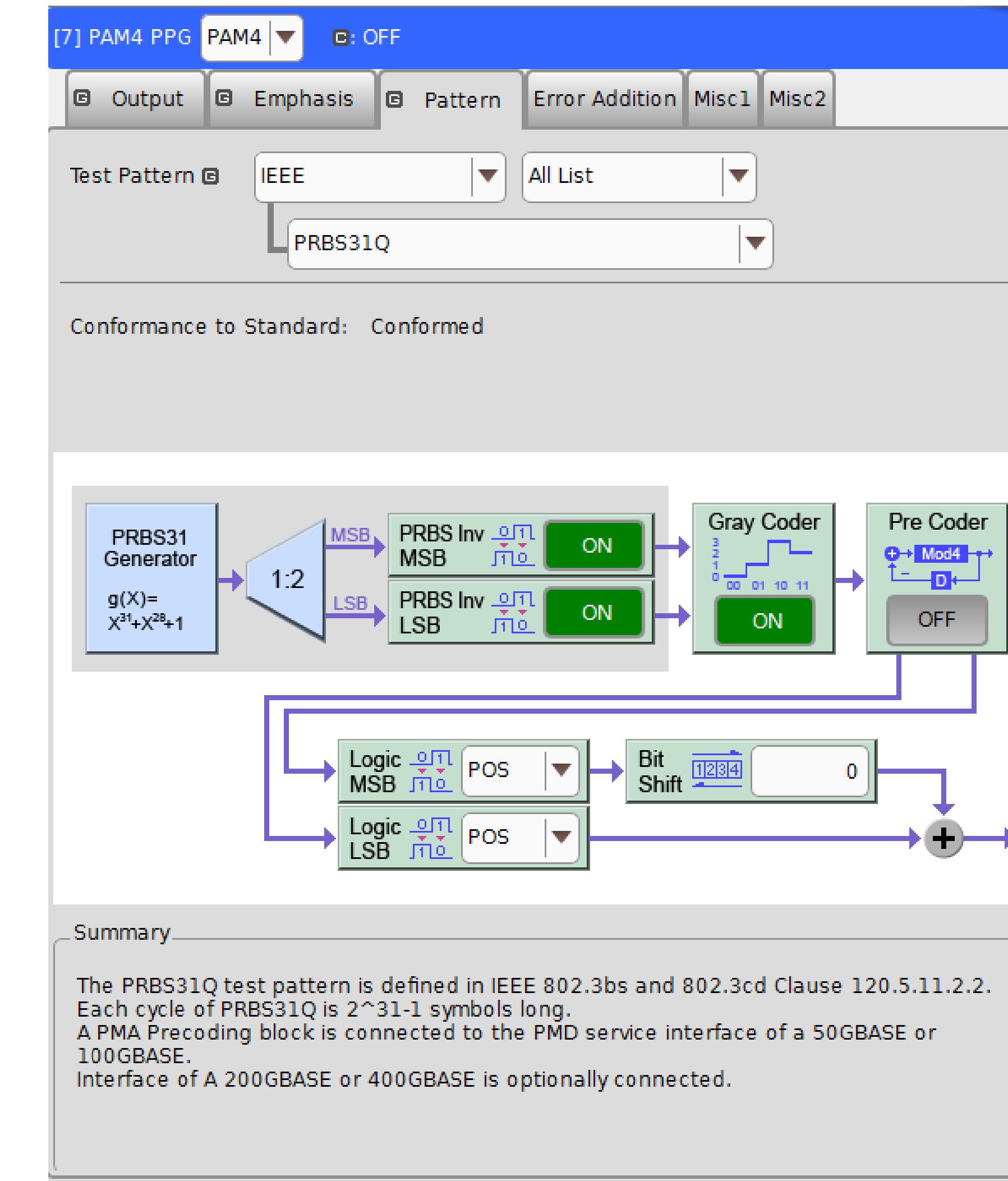
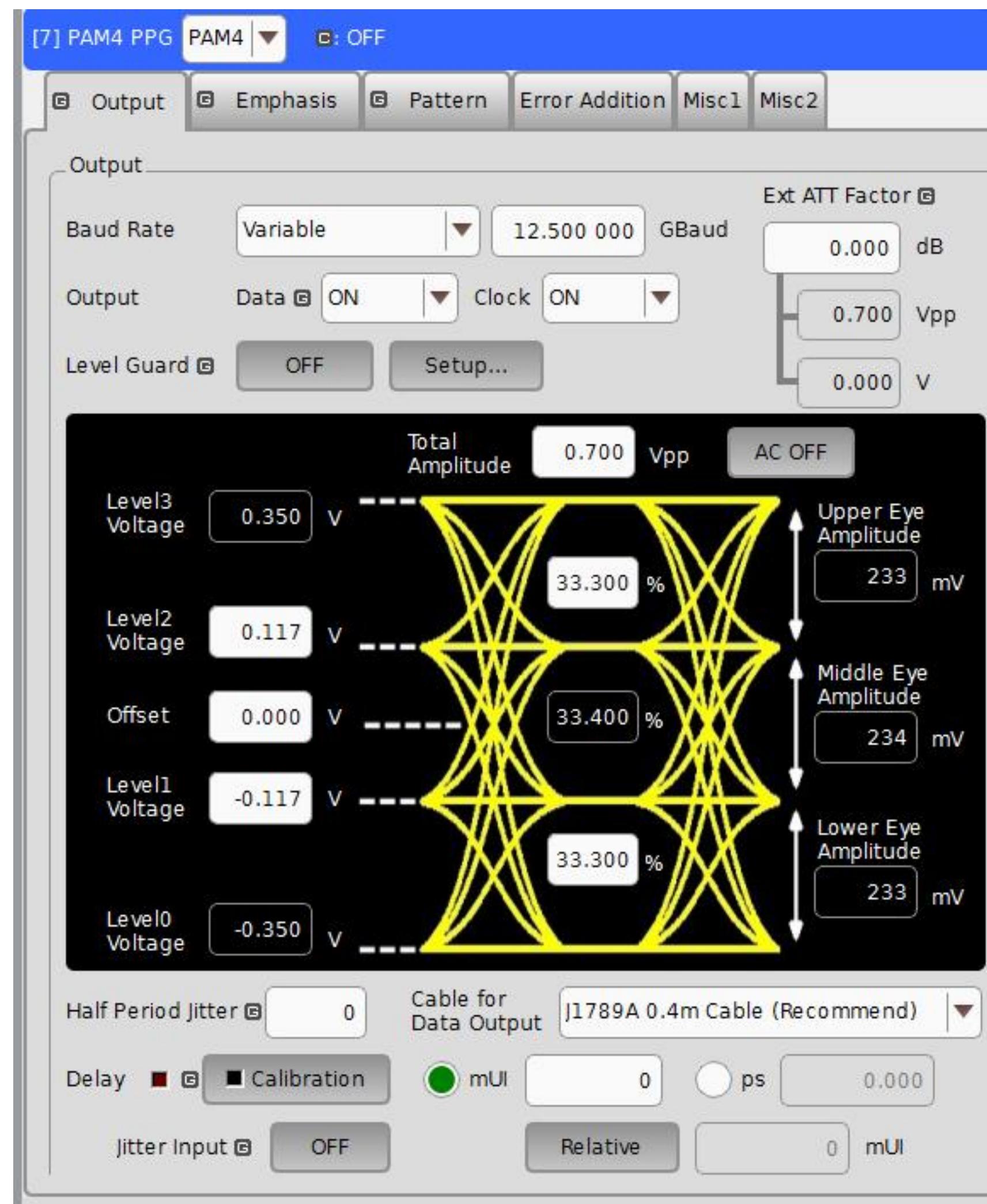


Electrical TDECQ: 0.10 dB

RLM: 0.99

Eye width: 23.5 ps(0/1), 26.8 ps(1/2), 23.5 ps(2/3)

SQA Flexible PAM4 Generation



BERTWave MP2110A 53Gbaud PAM4 TEDCQ Measurement

TDECQ Measurement:

TDECQ Equalizer 5, 7, and 9 taps (1UI)
Threshold Adjustment (IEEE802.3cd)

Filters:

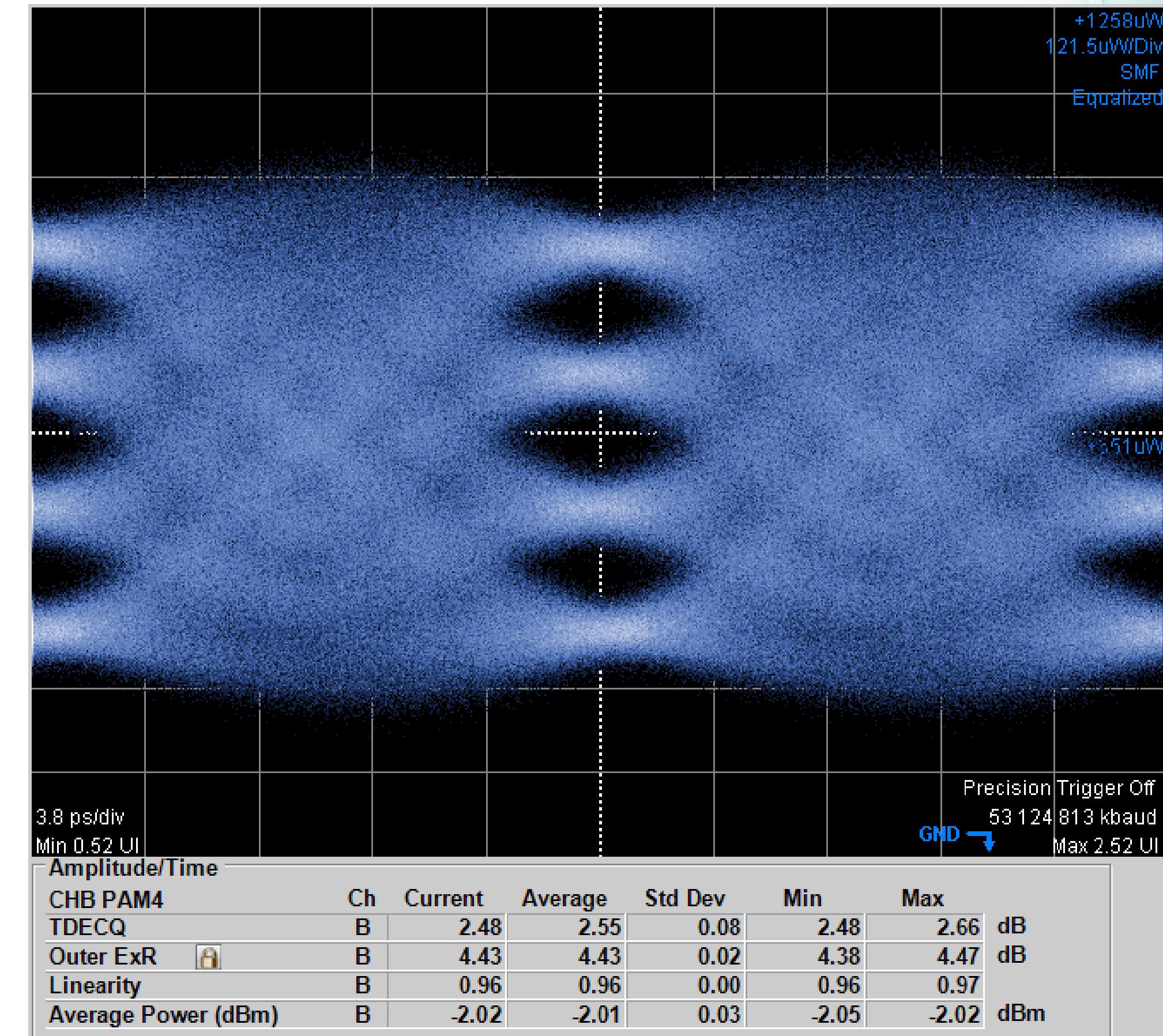
50GbE/100GbE/200GbE/400GbE:
26.5625 Gbaud MM TDECQ (11.2 GHz)
26.5625 Gbaud SM TDECQ (13.3 GHz)
26.5625 Gbaud (19.3 GHz)
53.1250 Gbaud SM TDECQ (26.6 GHz)
53.1250 Gbaud (38.7 GHz) *2

64GFC:

28.9000 Gbaud MM TDECQ (12.4 GHz)
28.9000 Gbaud SM TDECQ (14.45 GHz)

PAM4 Measurements:

Outer ExR and OMA
Average Power and Linearity
Levels p-p, Levels rms, Level Skews
Eye Levels, Eye Heights, Eye Widths, Eye Skews



53 Gbaud PAM4 TDECQ Measurement



公知

2020-3 MJM No. OFC2020-E-Z-1-(1.00)