

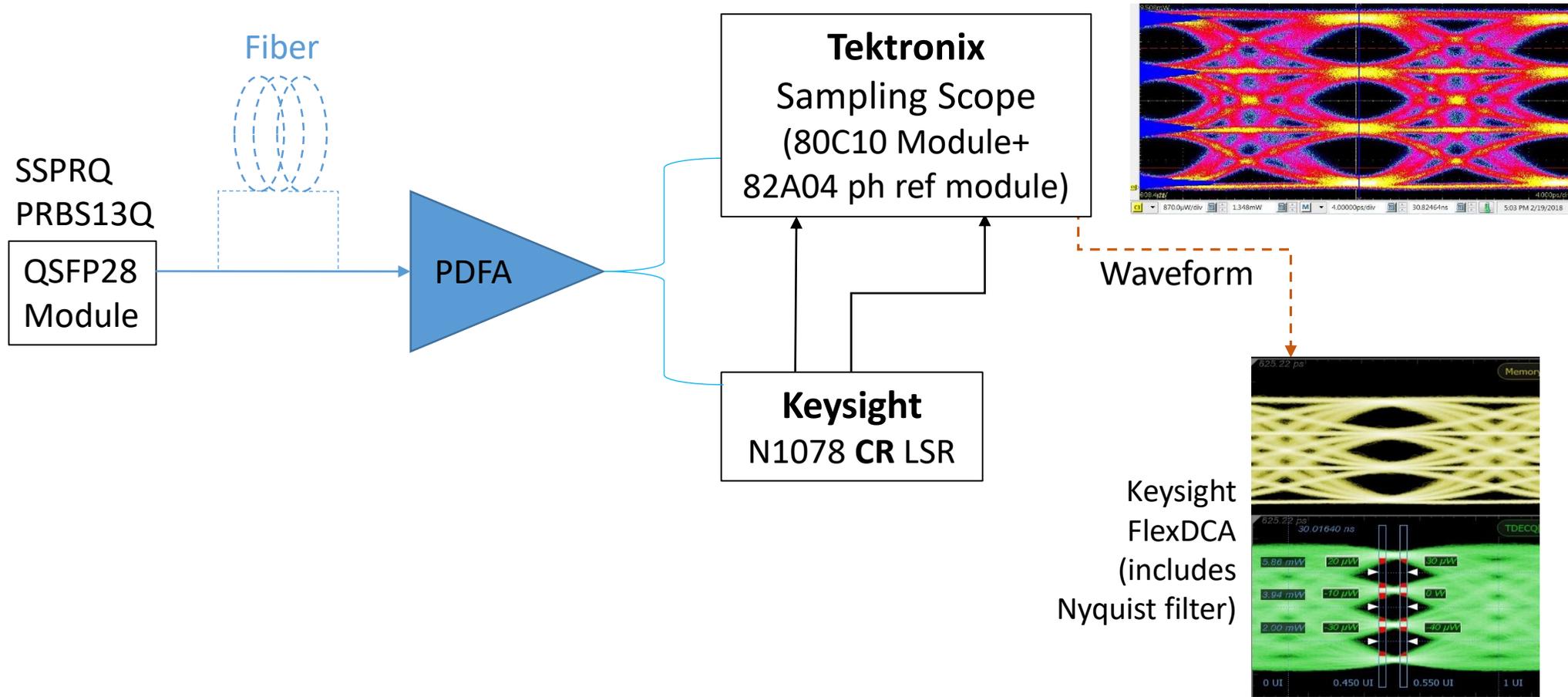
100GBASE-DR: 'GoldenEye'

- Marco Mazzini -

Background

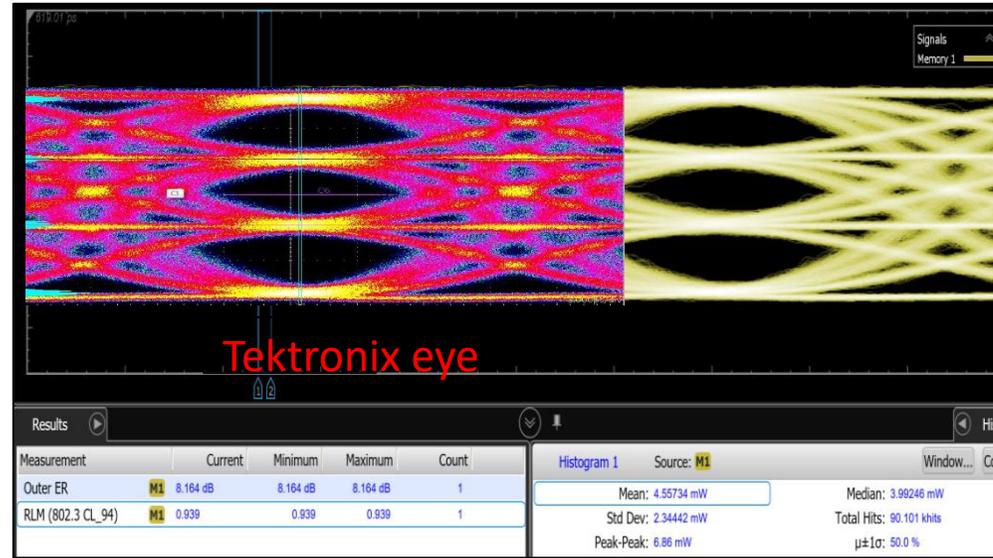
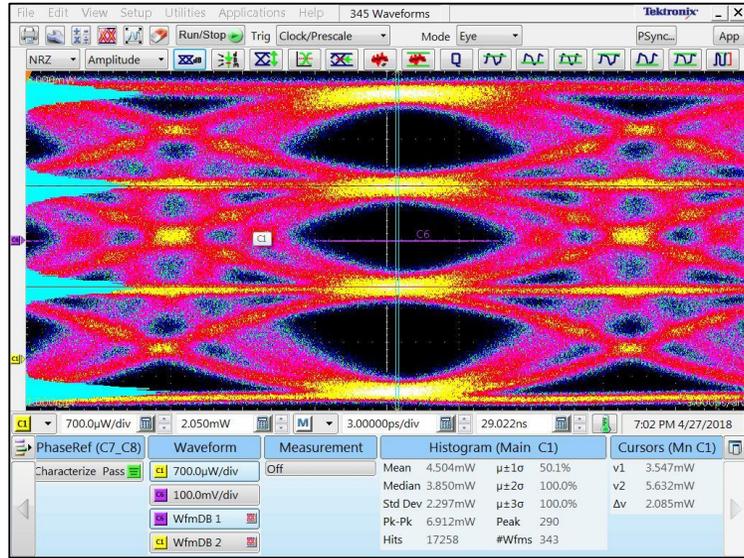
- So far 802.3bs and 802.3cd requested TX waveforms across different technologies and rates (more recently, 100G Lambda MSA decided that it would be beneficial to gather some representative TDECQ data from a variety of transmitters).
- Different IEEE contributions ([schube 011718 3cd adhoc](#), [dawe 032118 3cd adhoc](#)) highlighted that probably some more work has to be done to refine SECQ methodology and limit the ‘practical’ TDECQ region to ensure no interoperability troubles.
- Based on these requests, we are publishing 53.125 GBaud optical eyes and the acquired waveforms (PRBS13Q and SSPRQ), from a 100GBASE-DR QSFP28 module tested in Cisco Italy.
- Based on the low noise and low ISI characteristics, we think it can be used as ‘*GoldenEye*’ for 53GBaud optical simulations (e.g. filtering, noise, distortion can be added).

Eye acquisition (TDECQ test) – TX set-up



Transmitter waveforms are acquired with above set-up and published.

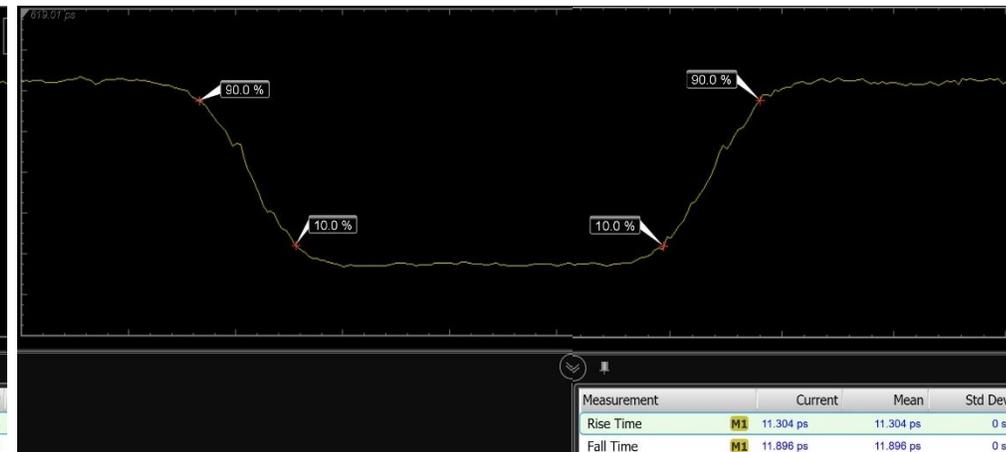
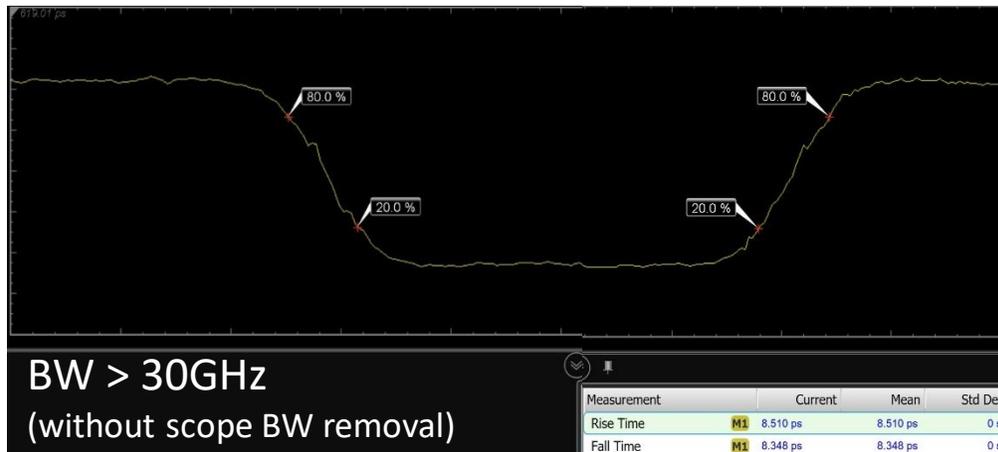
TX characteristics: eye diagram, ER, RLM, rise/fall.



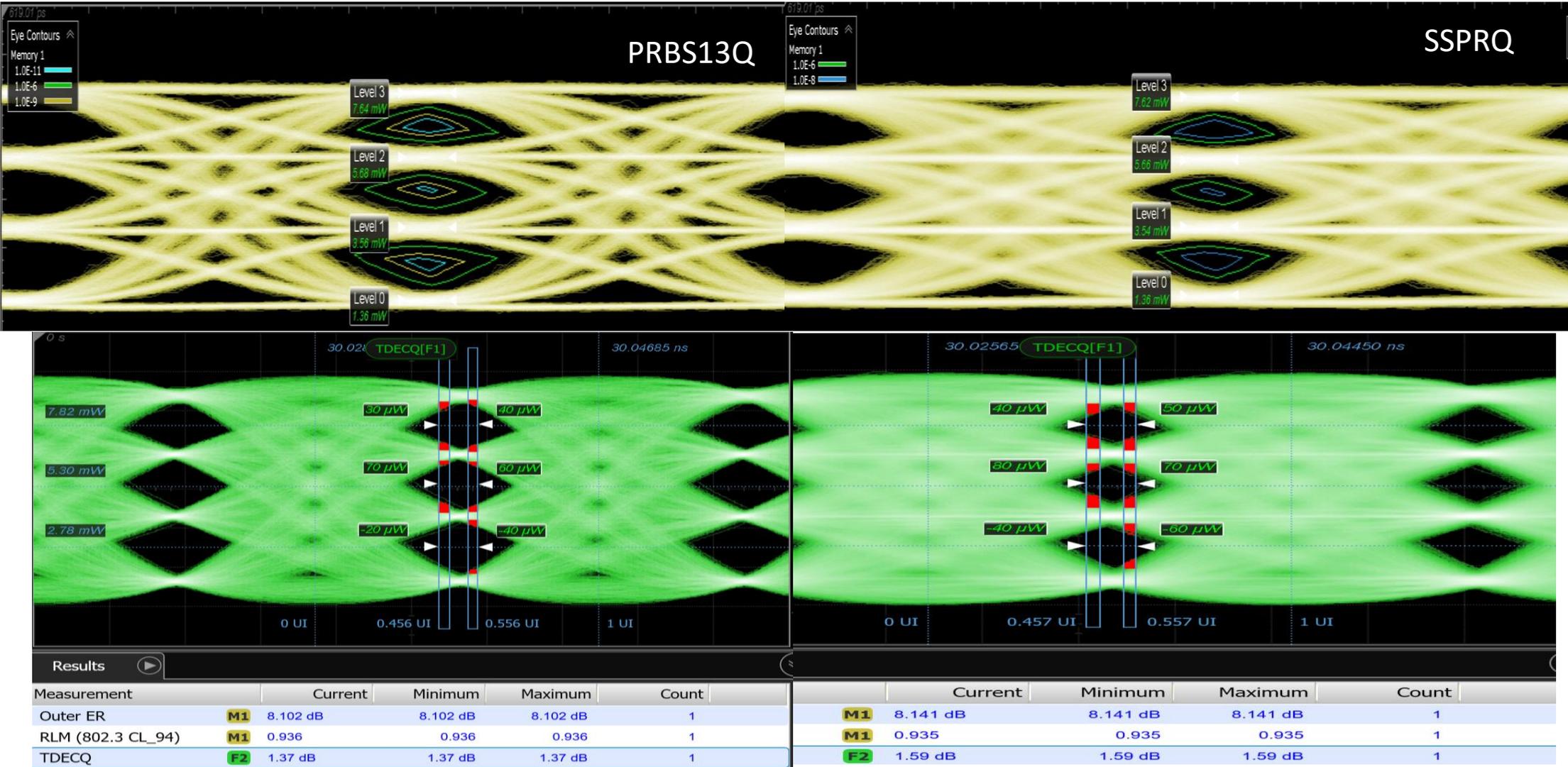
Raw waveform (no equ)
 Calc VECP01 = 2.12 dB
 Calc VECP12 = 2.68 dB
 Calc VECP23 = 2.25 dB

VECP calculated as $10 \cdot \log$ of ratio between relative level spacing and $1E-5$ Eye Height.

Calculated SNR > 32dB.



PRBS13Q and SSPRQ: eye countour, TDECQ.



TDECQ as per latest IEEE 802.3cd draft (1% OMA outer threshold optimization).

THANK YOU