100G-EPON:
Update of 25Gb NRZ experiments

ZTE
Tomorrow never waits

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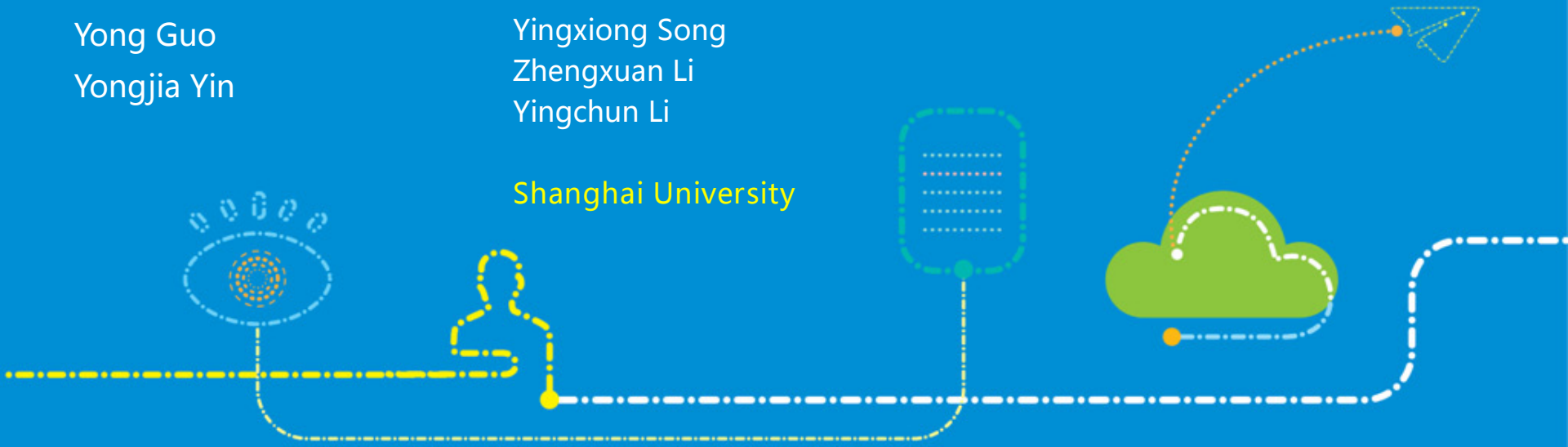

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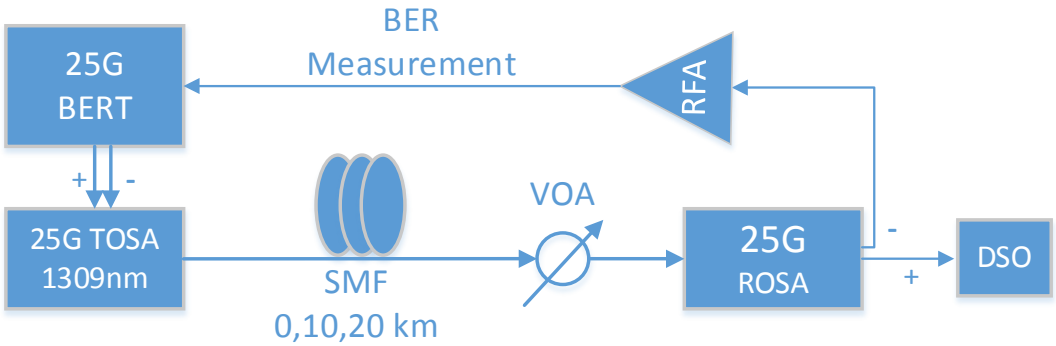
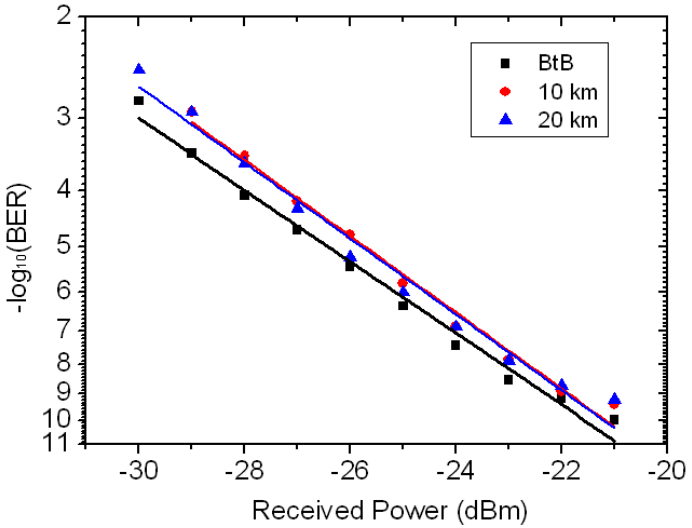
Introduction

Update experimental results using available components

- Receiving performance of 25G APD/TIA
- 25G CDR based on 25G optics
- 10G APD with 25G equalizer

Experimental setup & results of 25G EML & 25G APD



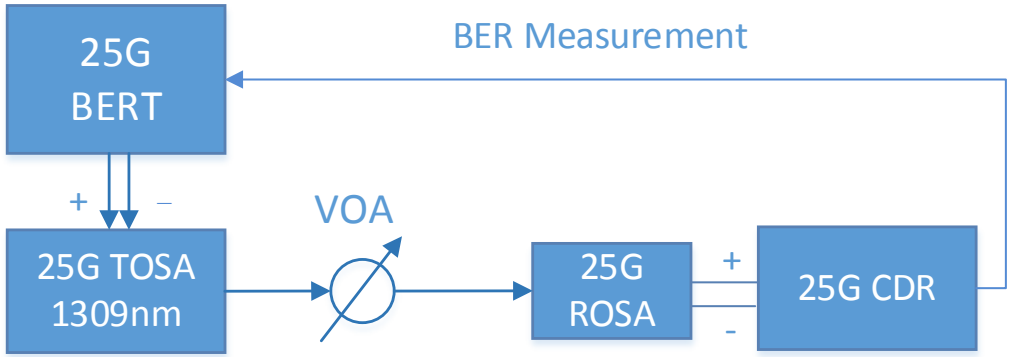


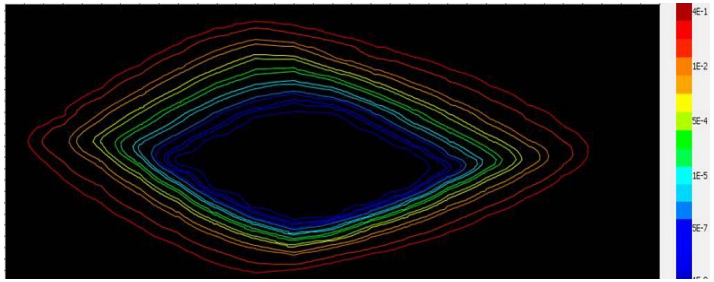
- 25G EML TOSA at 1309nm,
- Detect by 25G APD/TIA ROSA
- DSO for eye monitoring
- BER is measured by 25Gb BERT

Performance of 25G APD is good enough that you really don't want to miss it!

APD chip is ready for commercial!

Experimental setup & results of 25G CDR





- 25G CDR experiment with 25G EML TOSA + 25G APD/TIA ROSA
- No bit error at -20dBm received optical power
- Clear eye captured after CDR
- Better receiver performance can be expected if using RF amplifier before CDR.

Experimental results of 10G APD with equalization

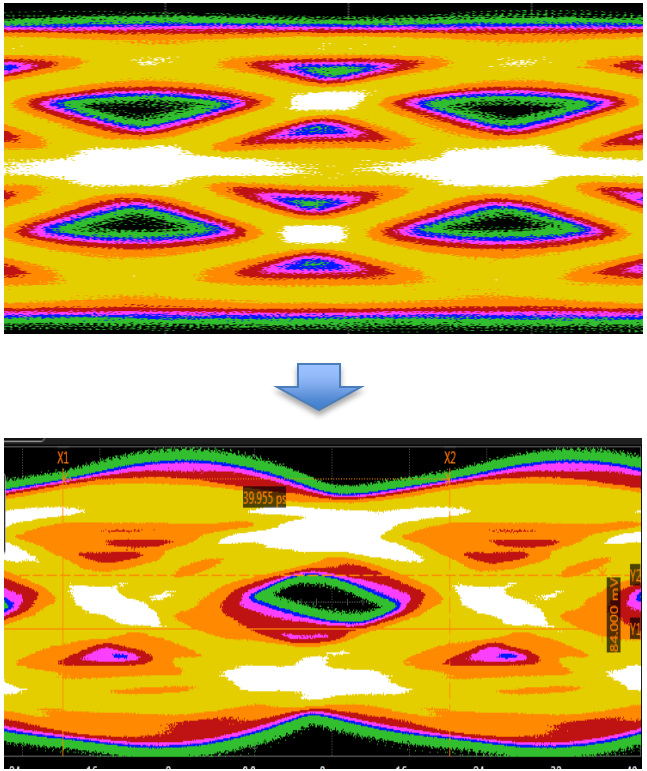
10G APD with available 25G equalizer

- FFE equalization test using 25G EML + 10G APD
- Results show obvious improvement after FFE
- Further tests are still on going.

No DSP-based equalization is required

- DSP and multi-level detection demand high speed analog components (such as analog-to-digital converter or multi-level slicer, etc) which results in increased cost, power consumption and complexity.

Burst mode is still under experimental investigation.



Summary

Several experimental results are updated using available components.

- Receiving performance of 25G APD
- 25G CDR based on 25G optics
- 10G APD with 25G equalizer

Next

- Further investigation on burst mode 25G CDR
- Further improvements on 10G APD with 25G equalizer

Straw poll

Adopt 25G NRZ detection as the receiver detection method for 100G-EPON.

Yes

No

Abstain

Motion

Adopt 25G NRZ detection as the receiver detection method for 100G-EPON.

Moved by:

Seconded by:

Yes

No

Abstain

Thank you

Tomorrow never waits