

Compact InP Wavelength Blocker based on a Single AWG and SOA gates for Metro Networks

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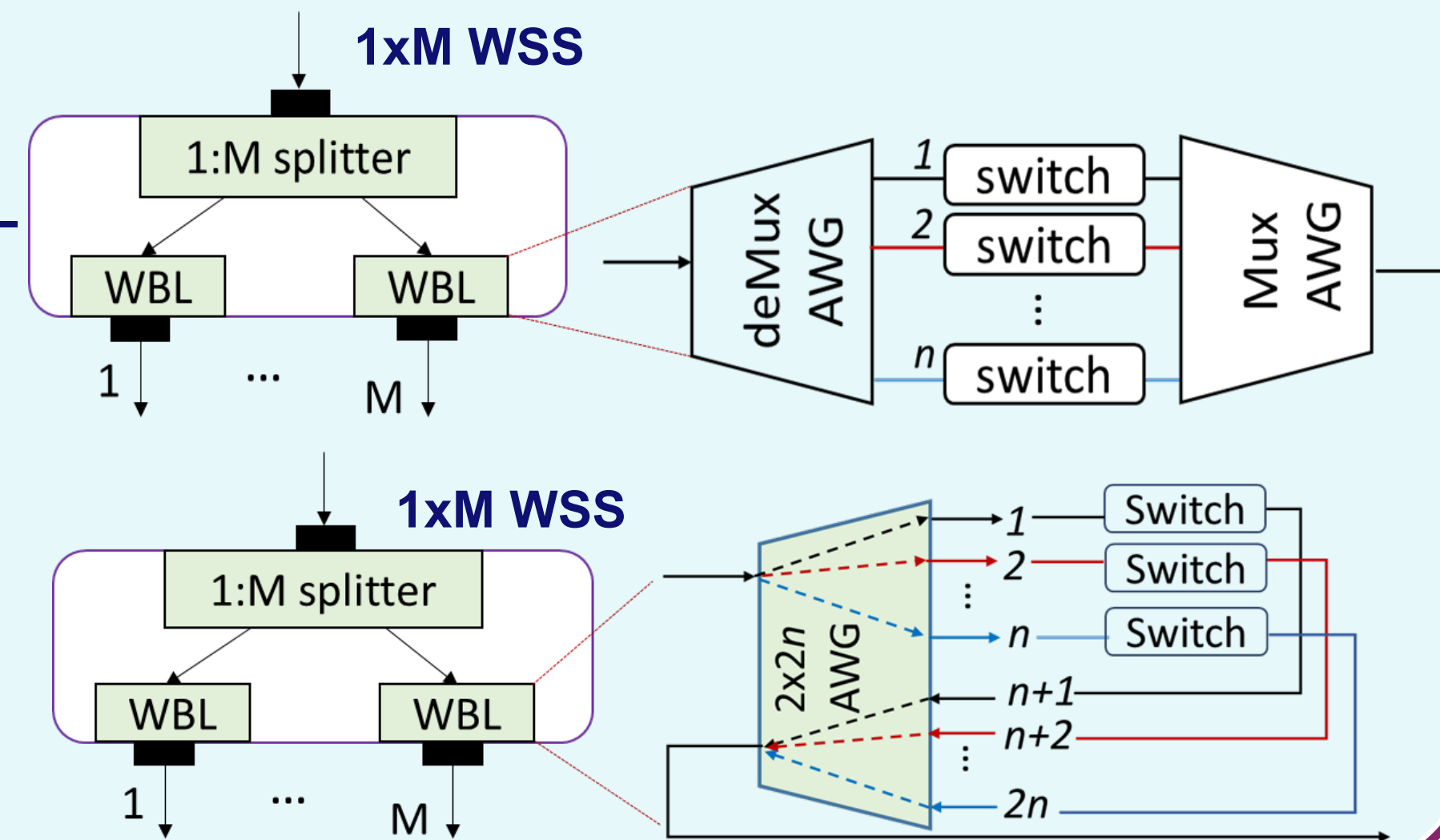


HORIZON 2020

I. Introduction

Traditional Wavelength blocker (WBL)

- ❖ Based on two AWGs and soa-gates
- ❖ Central wavelength mismatch



Proposed novel WBL

- ❖ Folded: based on a single AWG
- ❖ Scalable:
- ❖ Modular and compactness

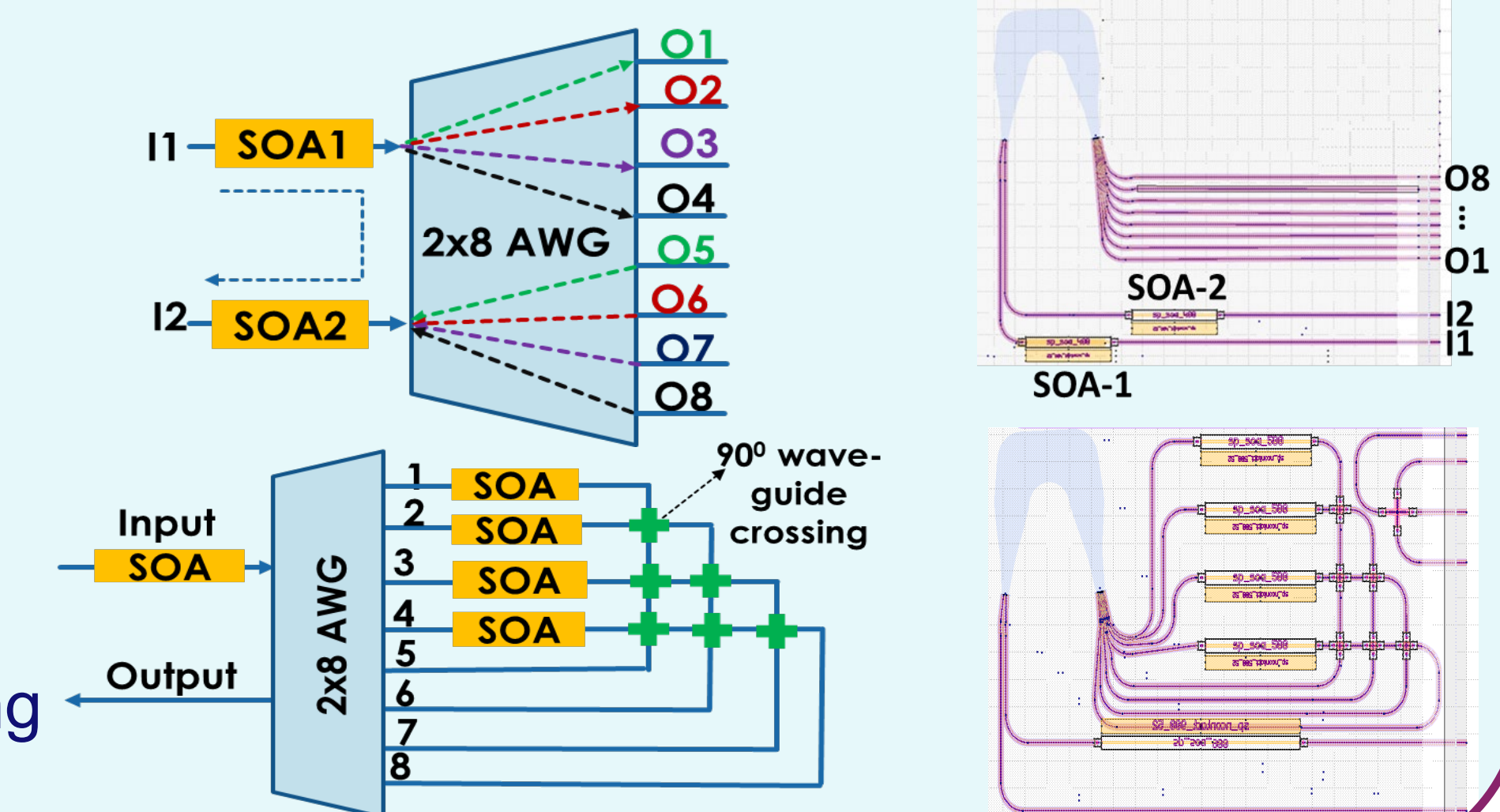
II. Proof of concept PIC implementation : folded WBL

2x8 AWG

- ❖ Ch1 (O1,O5)
- ❖ Ch2 (O2,O6)
- ❖ Ch3 (O3,O7)
- ❖ Ch4 (O4,O8)

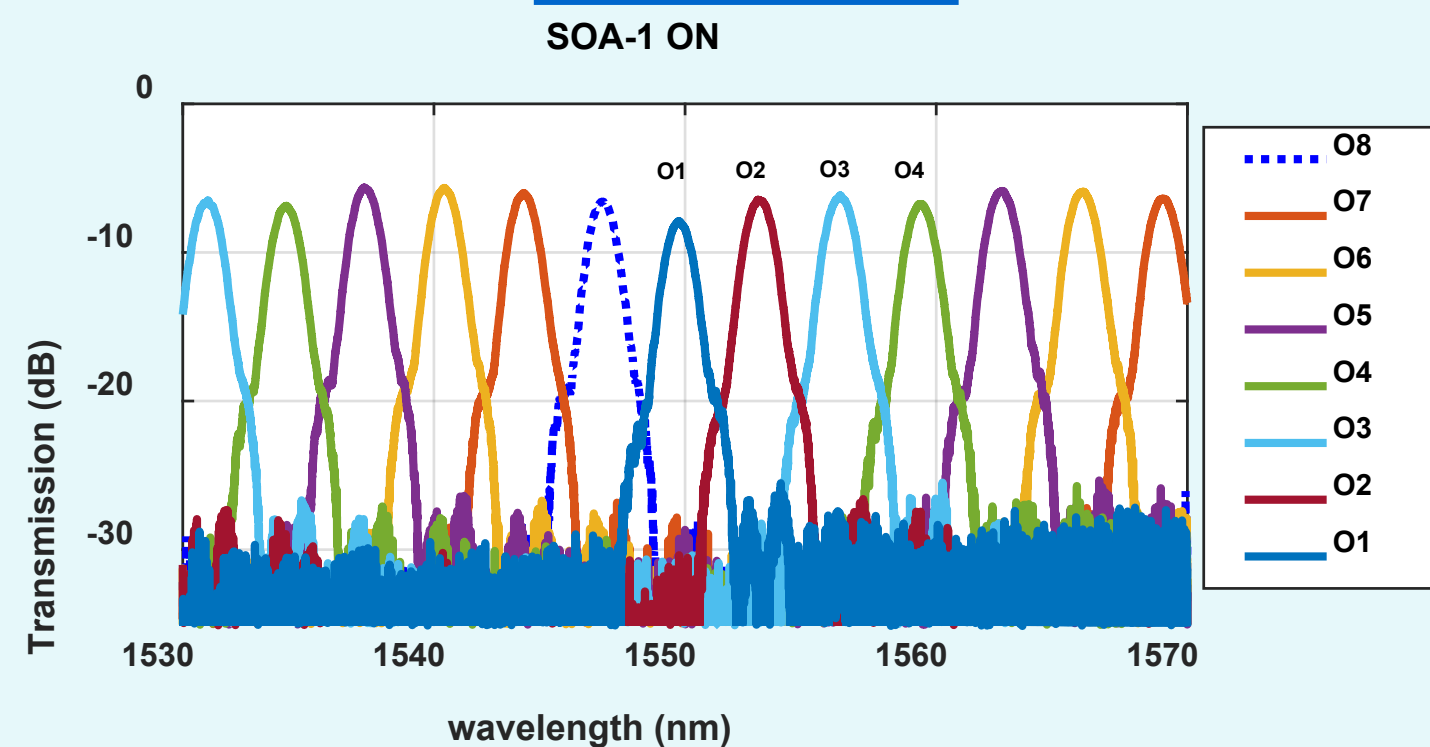
Folded WBL

- ❖ 4 –SOA gates
- ❖ waveguide crossing

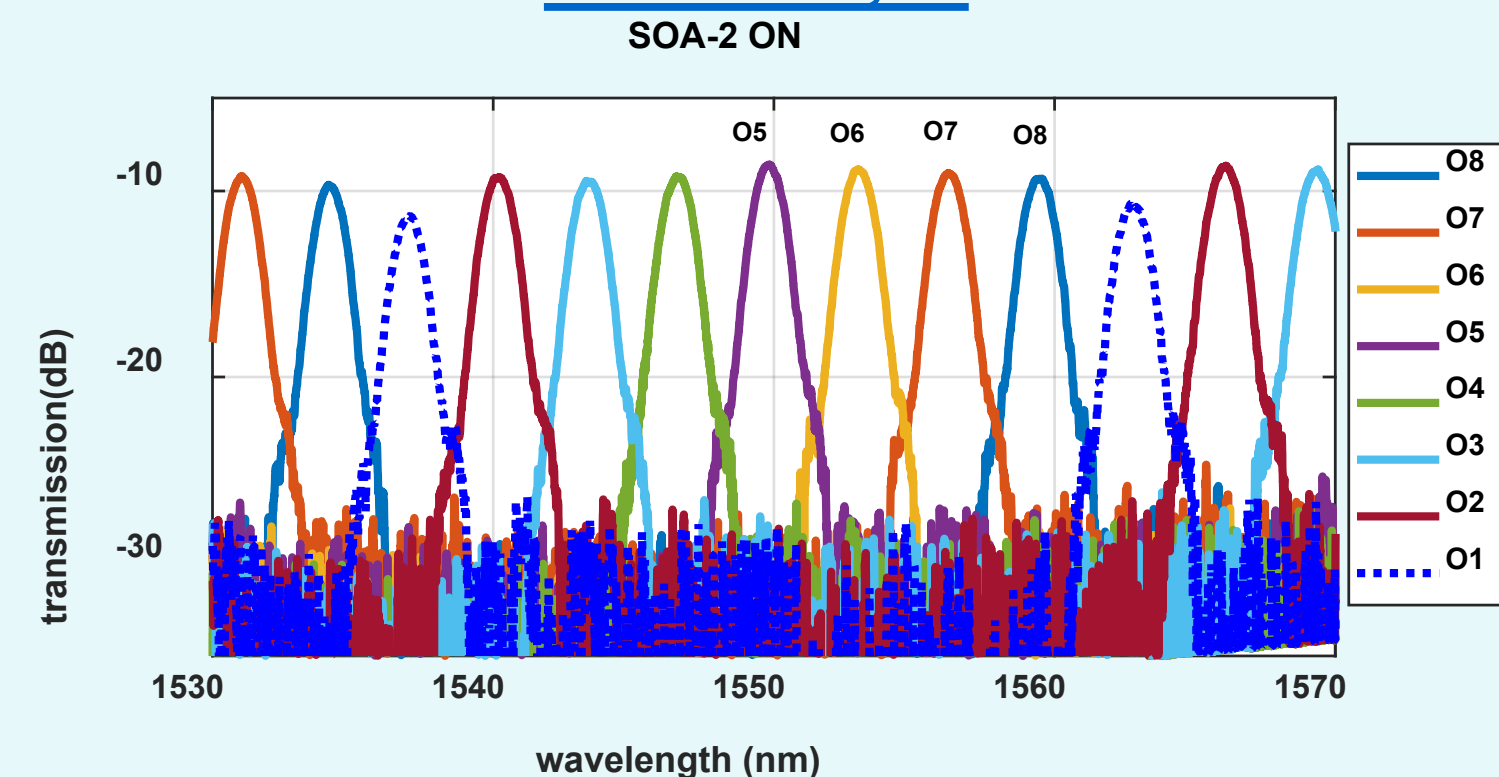


III. PIC characterization

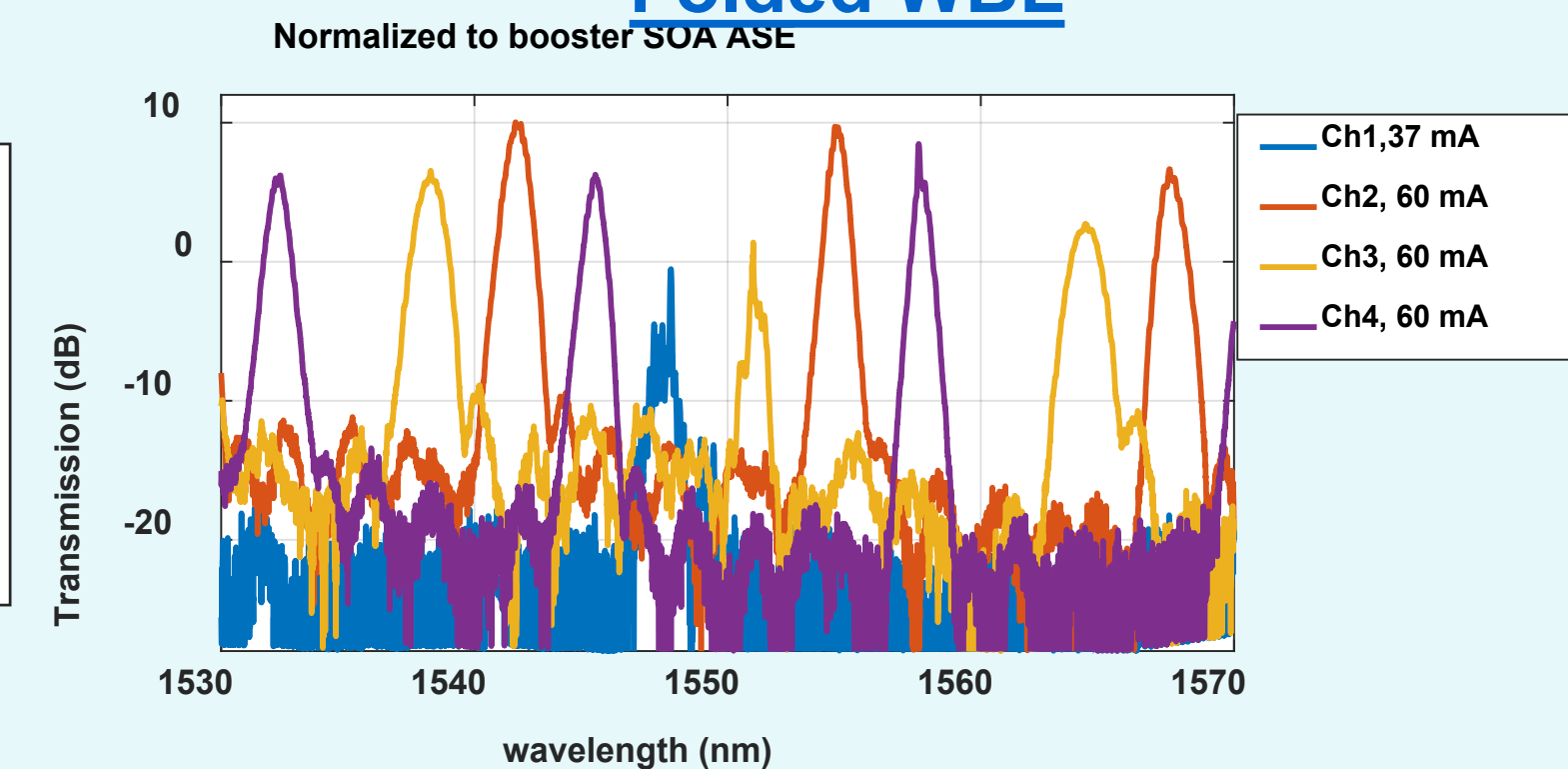
2x8 AWG, I1



2x8 AWG, I2



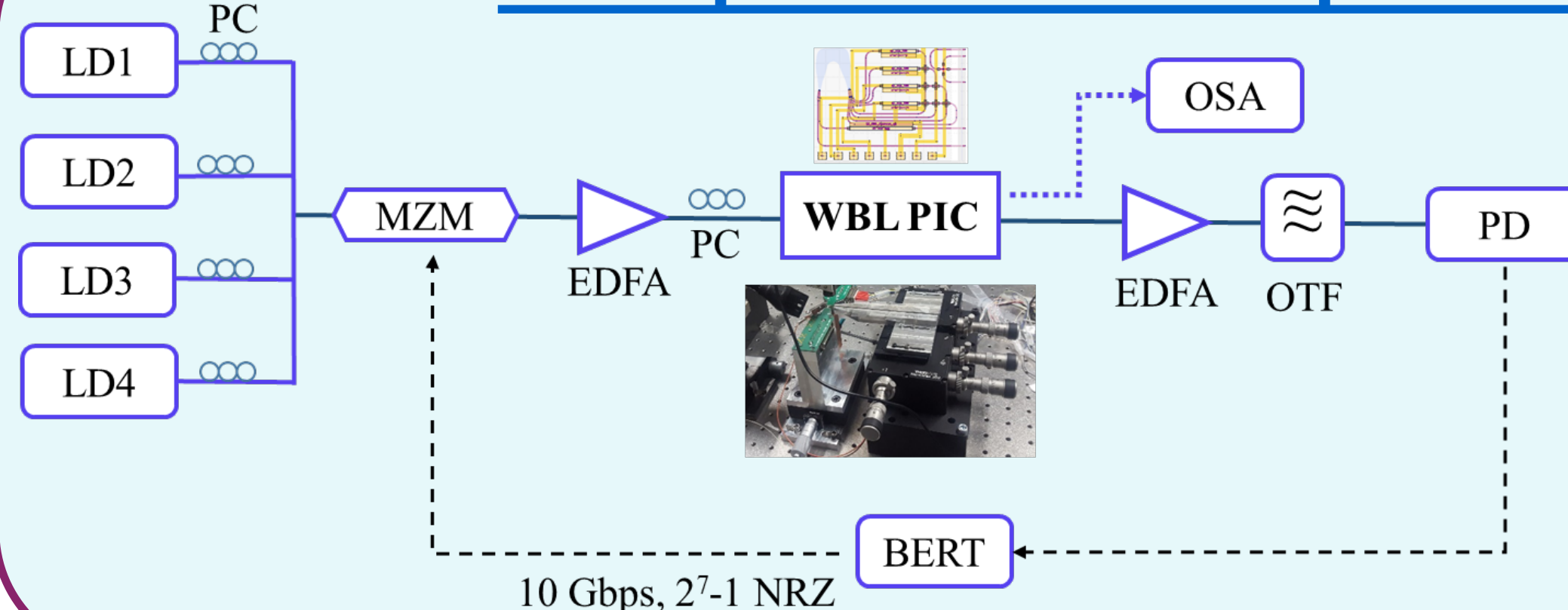
Folded WBL



V. Conclusion

- ❖ Experimental verification of a novel WSS design
- ❖ supports scalability by reducing footprint
- ❖ Low-loss operation enabled by booster SOAs

IV. Experimental Setup and Results



10 Gbps OOK transmission

- ❖ Error free operation
- ❖ Penalty 1 dB for Ch2 and 1.3 dB for Ch4

