

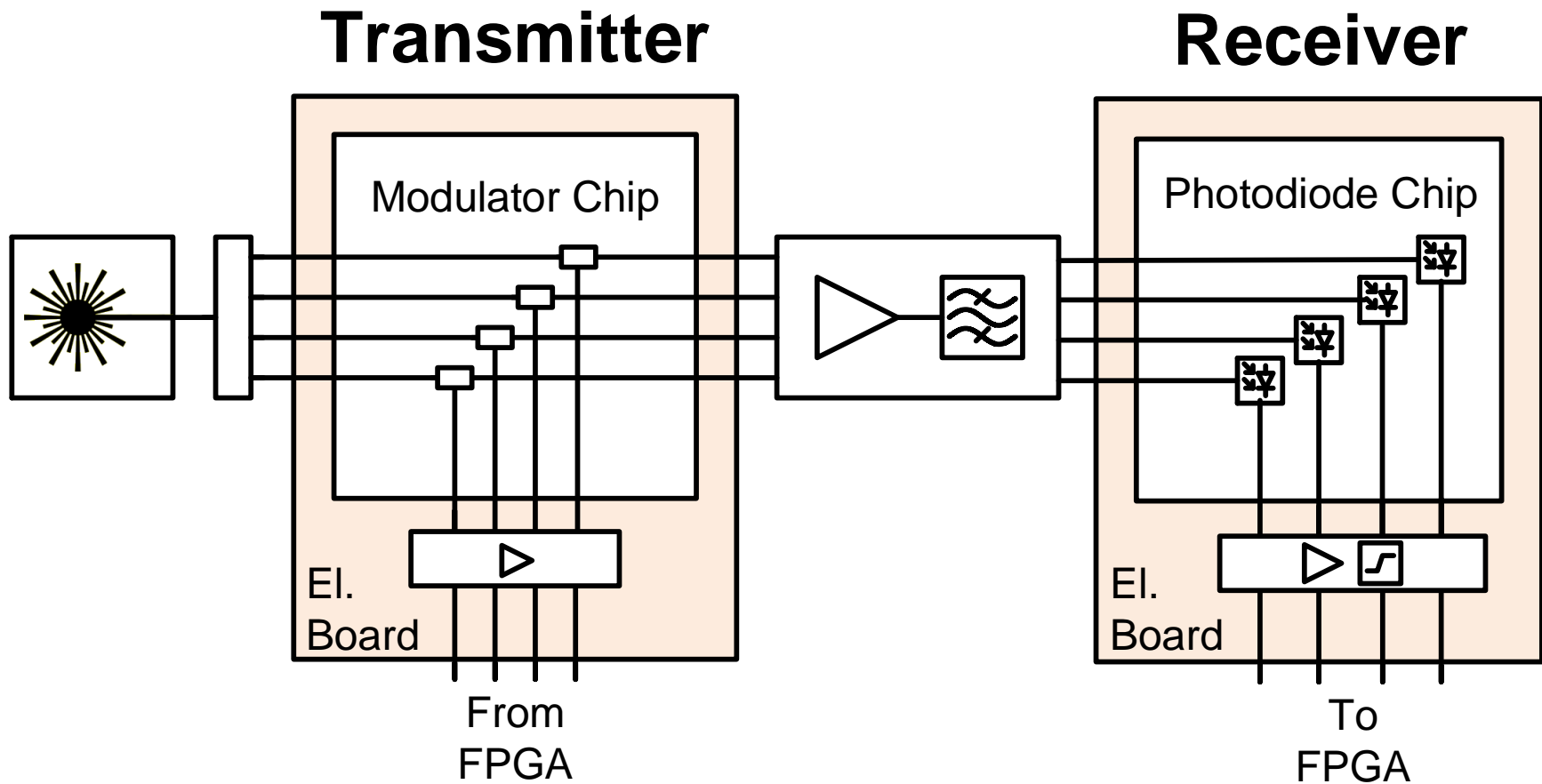
# NAVOLCHI WP6

## Integration, Characterization & Testing

Claudia Hoessbacher, Juerg Leuthold

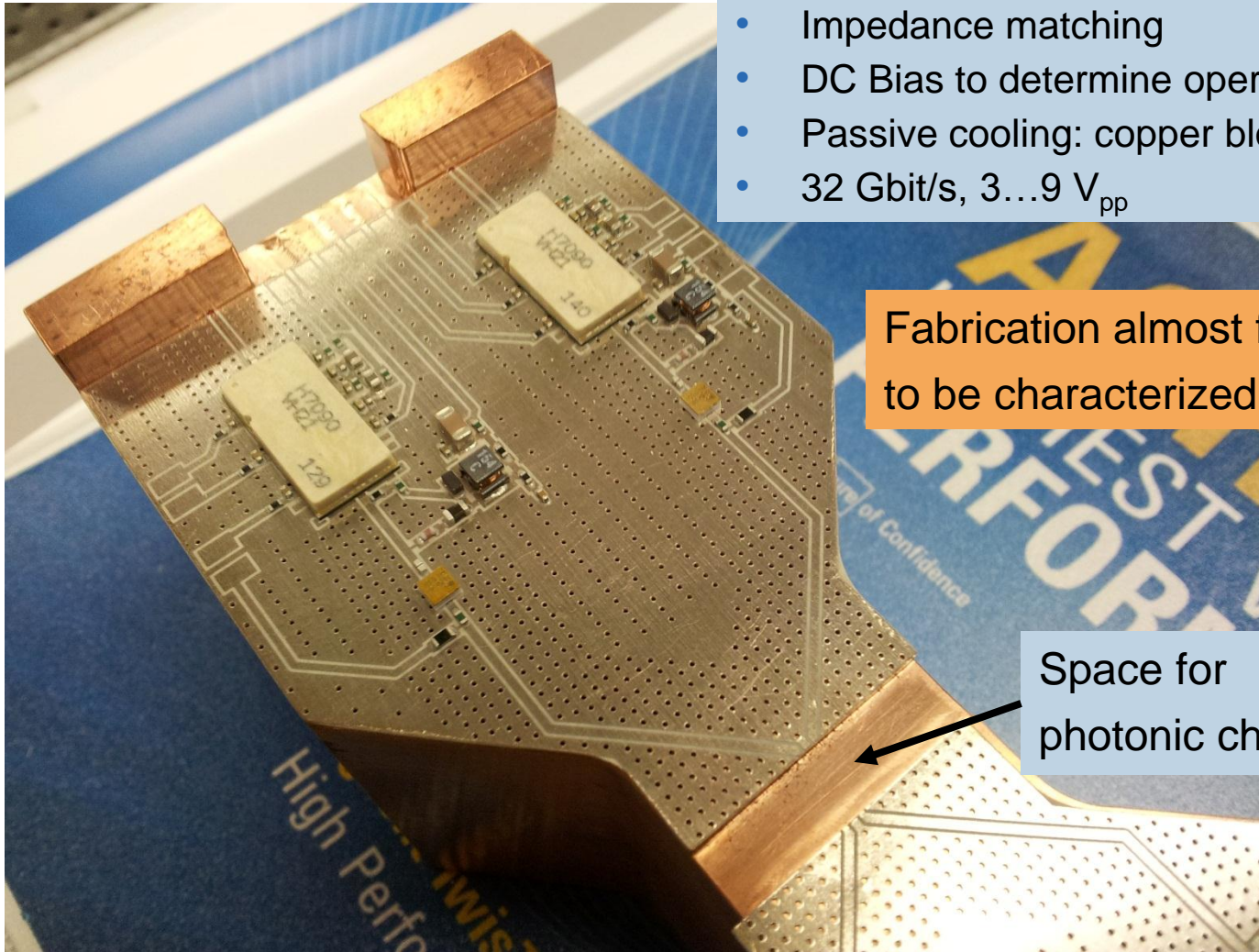


# Demonstrator



# Transmitter Packaging – Electrical Board and Housing

- K-connectors
- Impedance matching
- DC Bias to determine operating point
- Passive cooling: copper block below
- 32 Gbit/s, 3...9 V<sub>pp</sub>

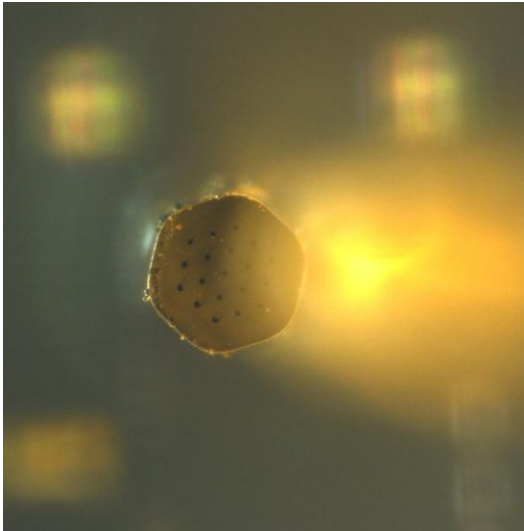


Fabrication almost finished,  
to be characterized

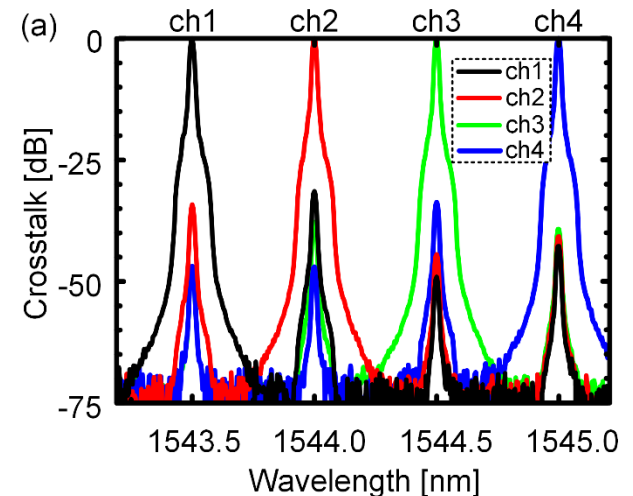
Space for  
photonic chip

# Optical Link – Multicore Fiber

Chiral Photonics (PROFA)



- 4 out of 19 channels with 50  $\mu\text{m}$  pitch
- Crosstalk measured to be below -31 dB
- Less than 1 dB worse transmission compared to normal fibers
- Allows for optical amplifier between transmitter and receiver



## Receiver - Electronics

- Gigoptix HXR6204 or HXR8204
- 4 channel 28 Gb/s transimpedance limiting amplifier array
- Pad distance 250  $\mu\text{m}$

To be assembled with IMEC PDs