



Custom Micro/Nano System Development and Production
for Telecom, Process Control, Life Sciences and Space


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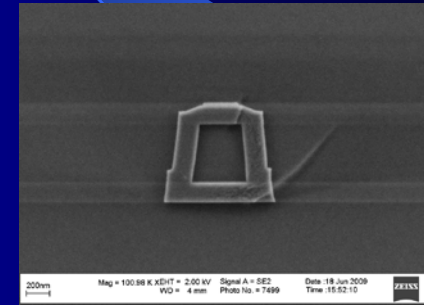
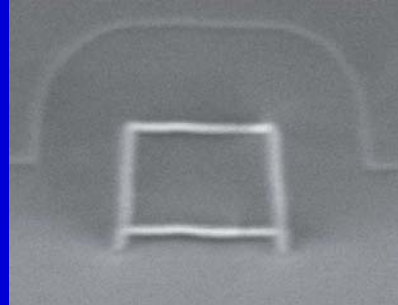
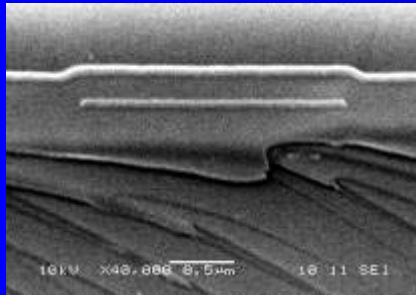
Packaging TriPleX™ chips

A. Leinse (LioniX bv)
07-07-2011

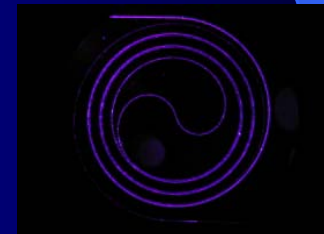
TriPleX™: some geometries.....

TriPleX waveguide technology:

1. Silicon *and* glass compatible \Rightarrow more possibilities
2.  \Rightarrow visible, datacom, sensor, telecom

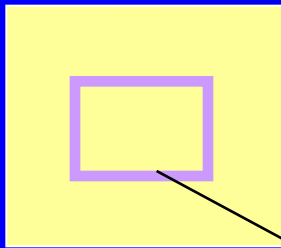


- Adjustable polarization properties (sensors \leftrightarrow telecom)
- Low optical attenuation
- Small bend radii (small footprint!)
- Design by geometry

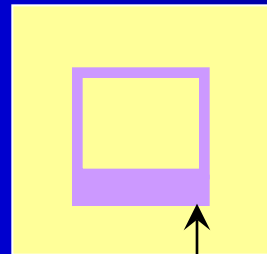


Tapering: high \rightarrow low index waveguides

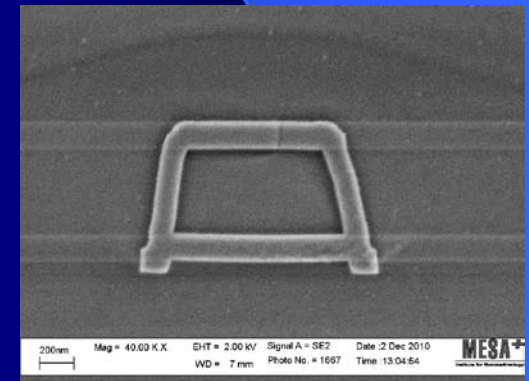
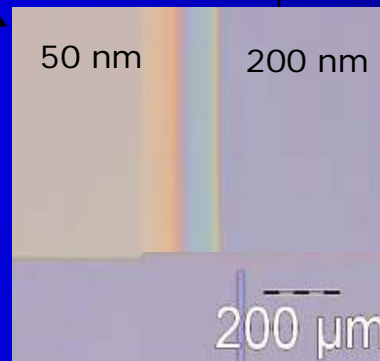
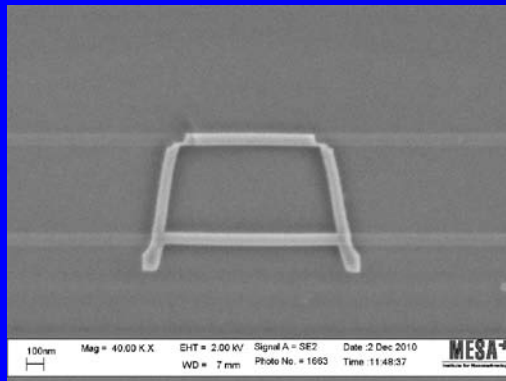
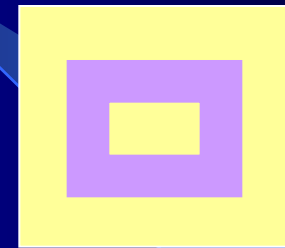
Low index contrast



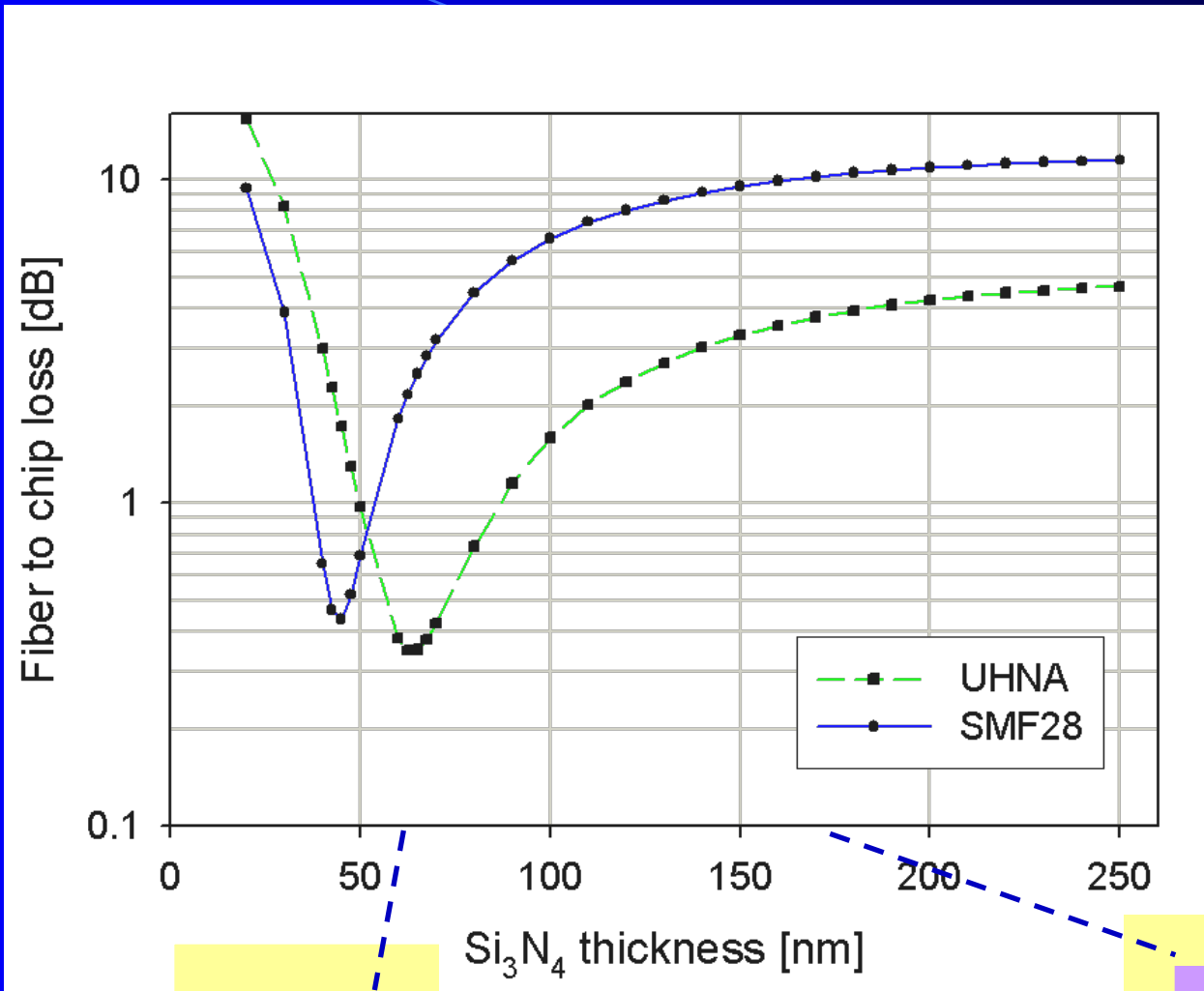
Medium index contrast



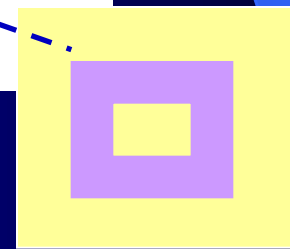
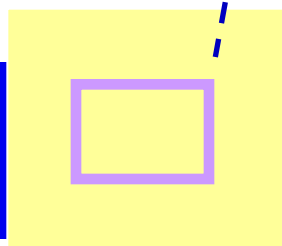
High index contrast



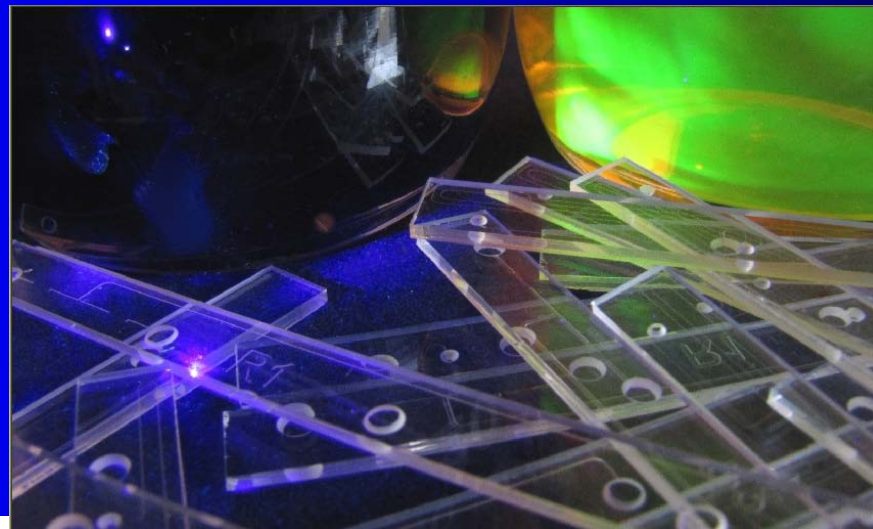
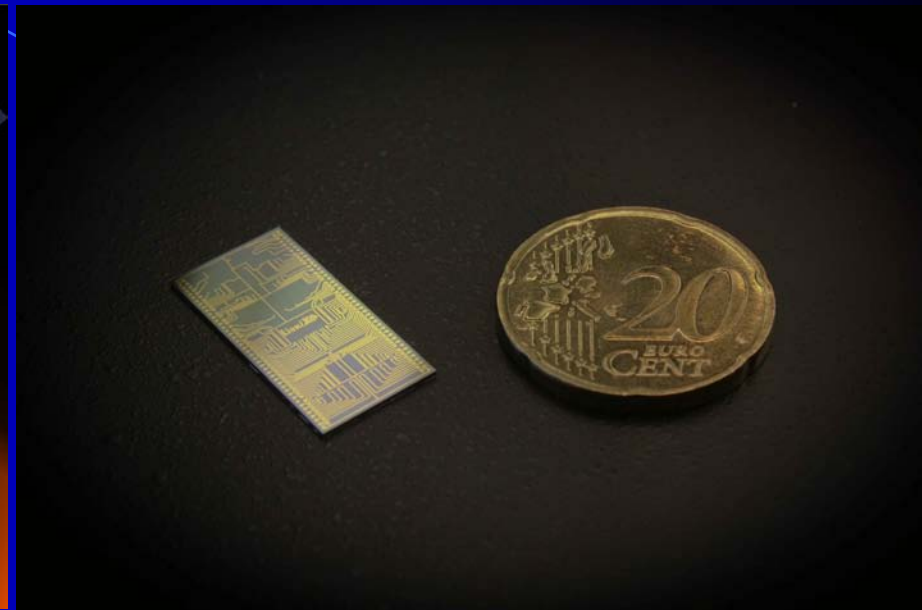
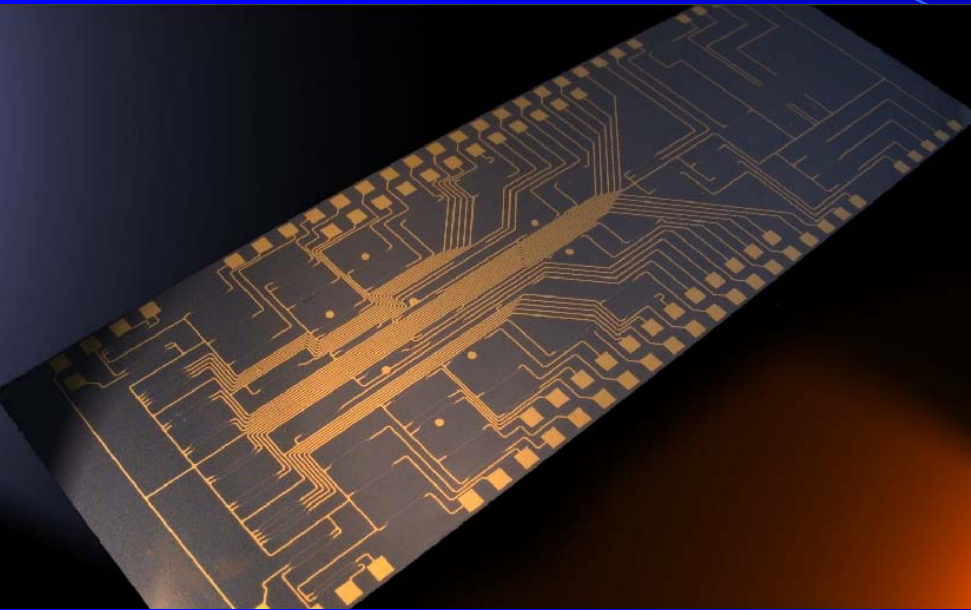
Schematics of taper process



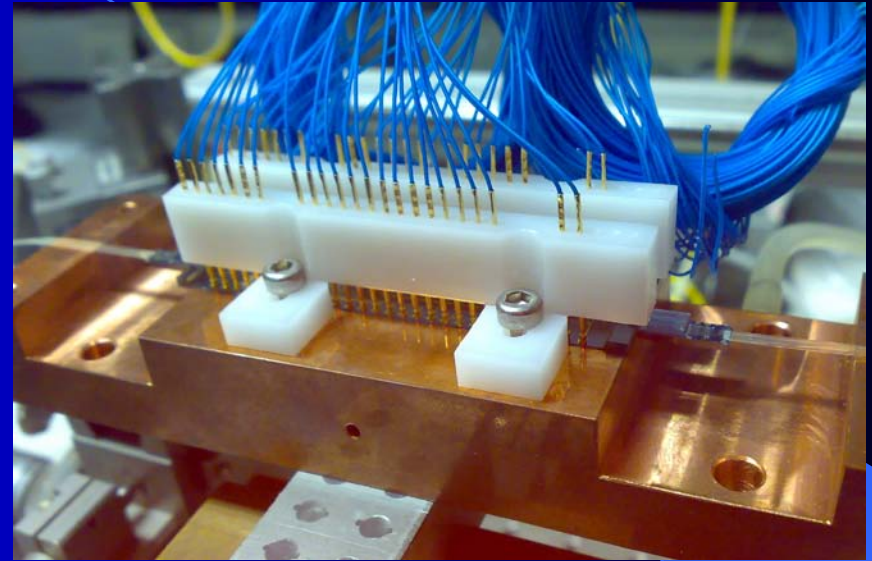
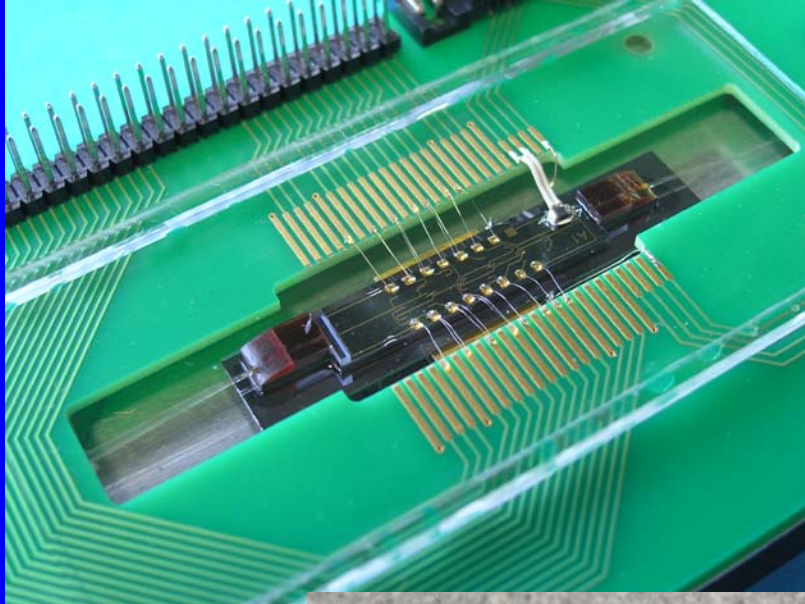
W = H =
500 nm,
t = 170 nm



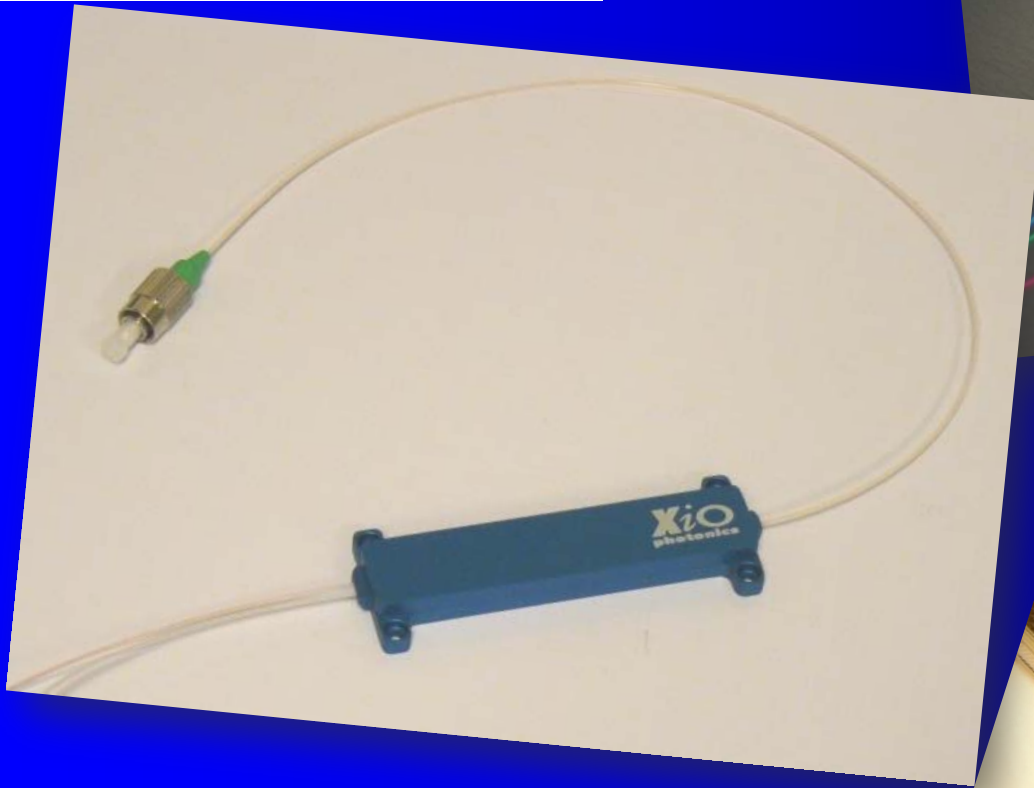
After fabricating bare dies



The research prototype

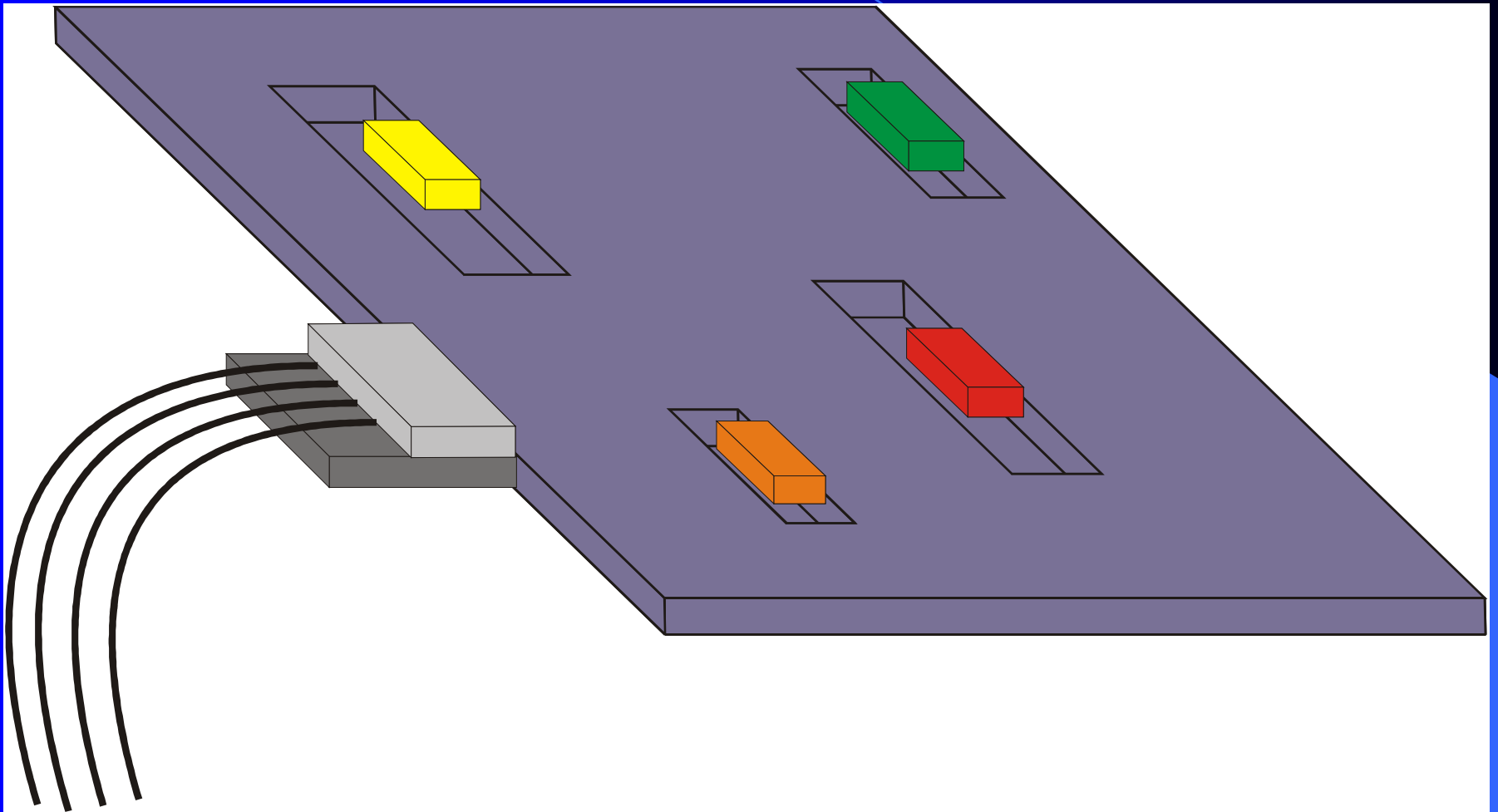


The product package

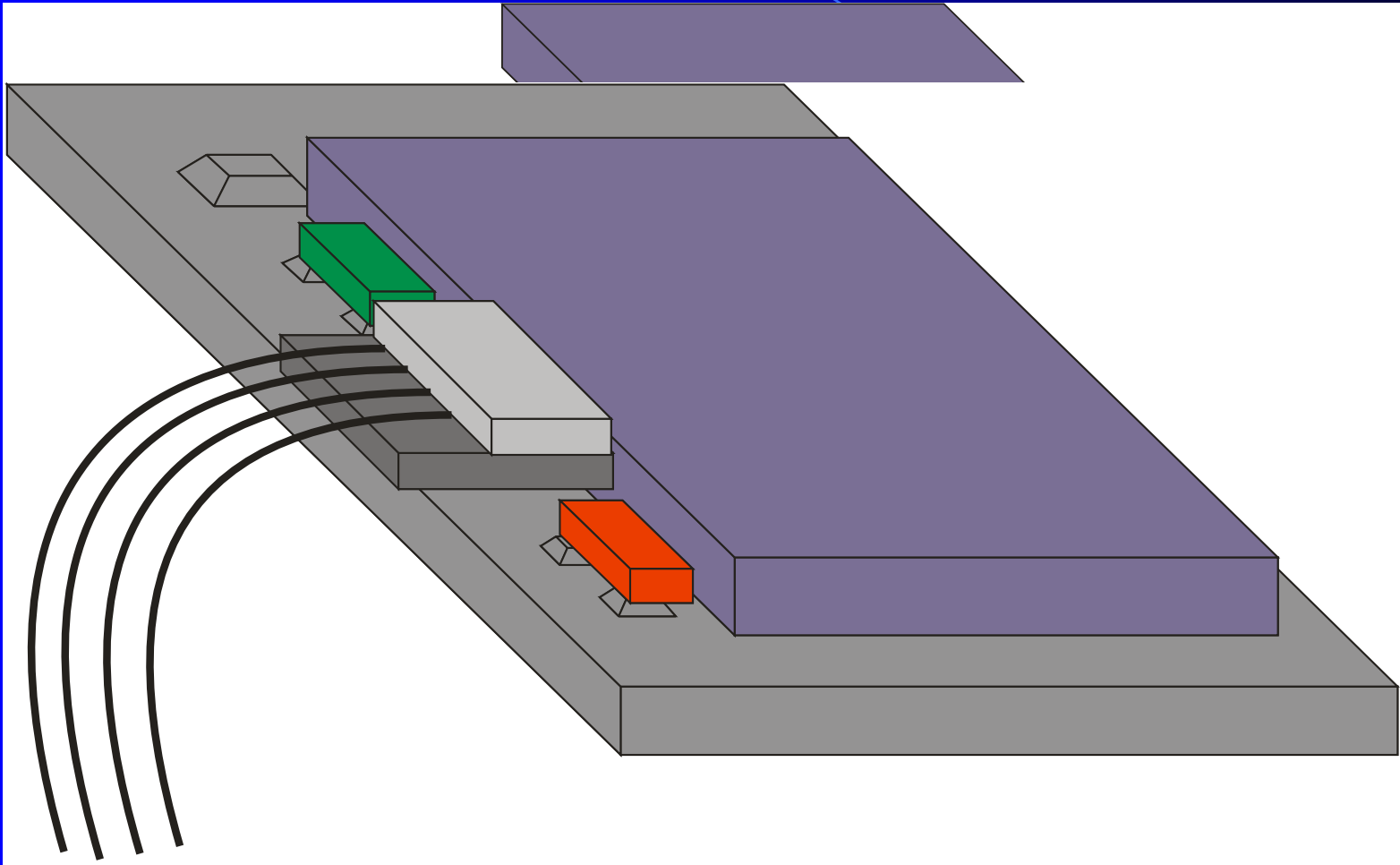


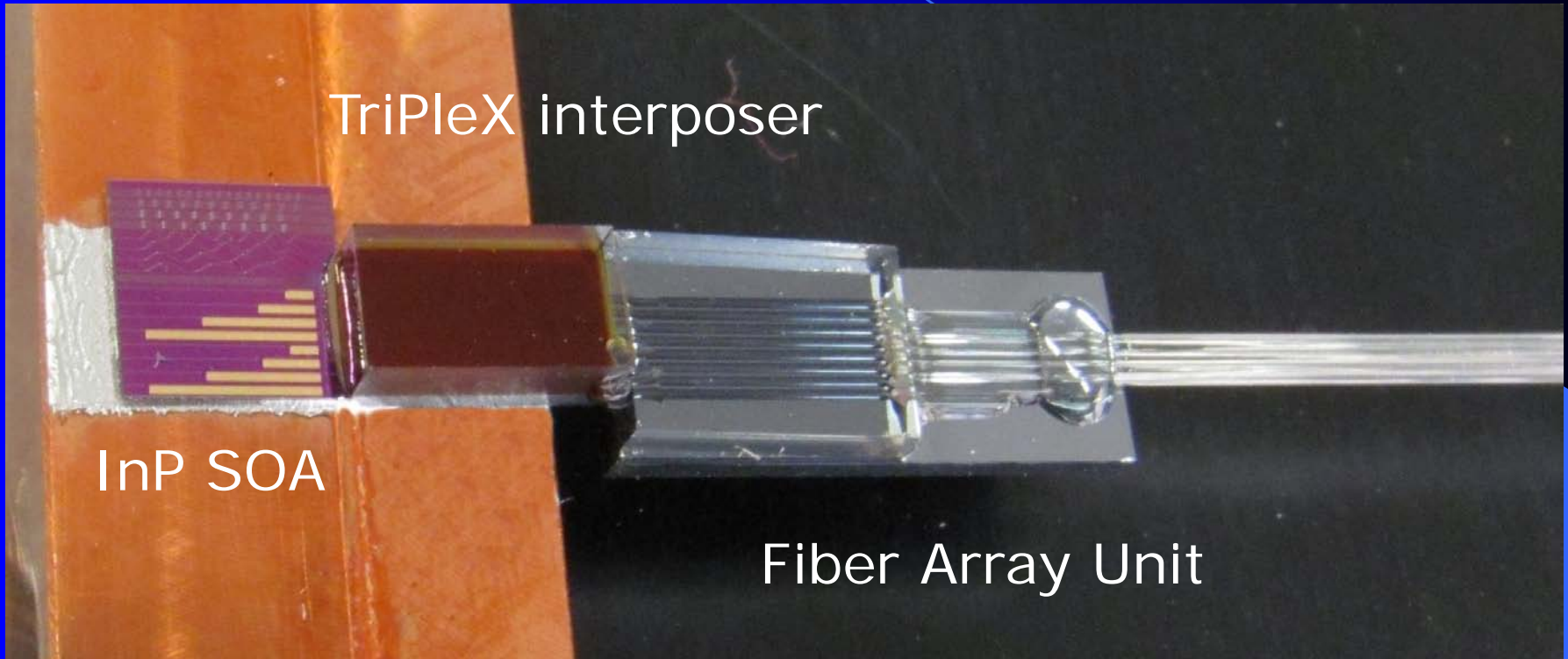
A 'XiOblue' anodized metal package with laser engraved logo, packaged in a ruggedized aluminum case.

Photonic PCB



Mother board approach with TriPleX interposer





TriPleX interposer

InP SOA

Fiber Array Unit

Questions



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