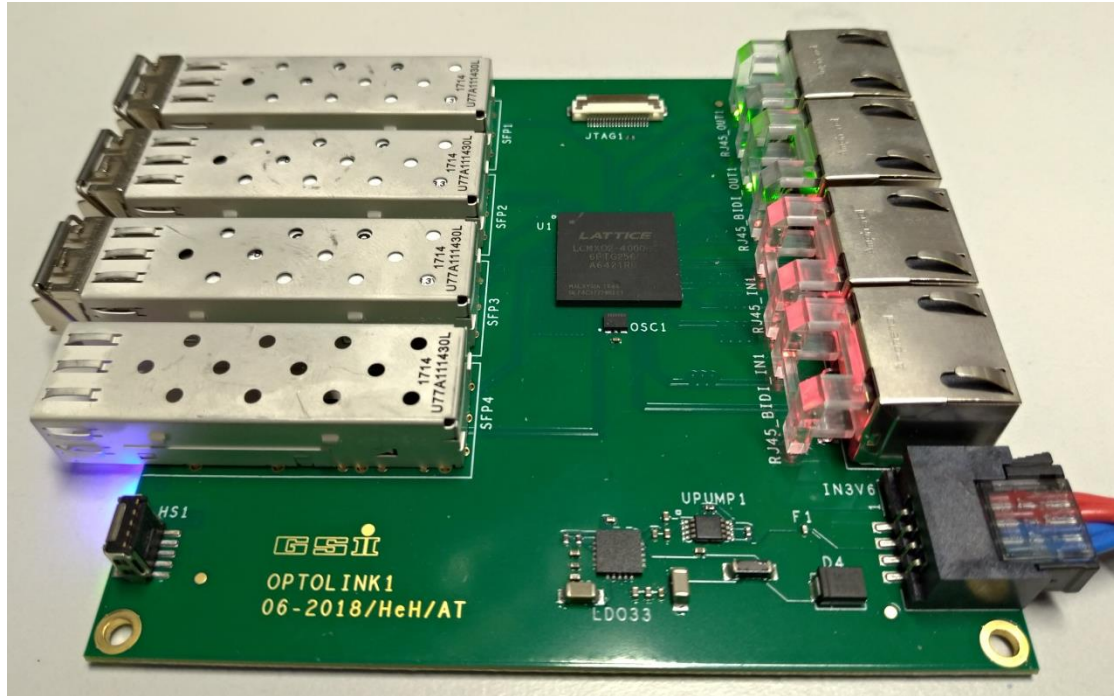


OPTOLINK1



Prototype module for clock and pulse transmission over optical fiber

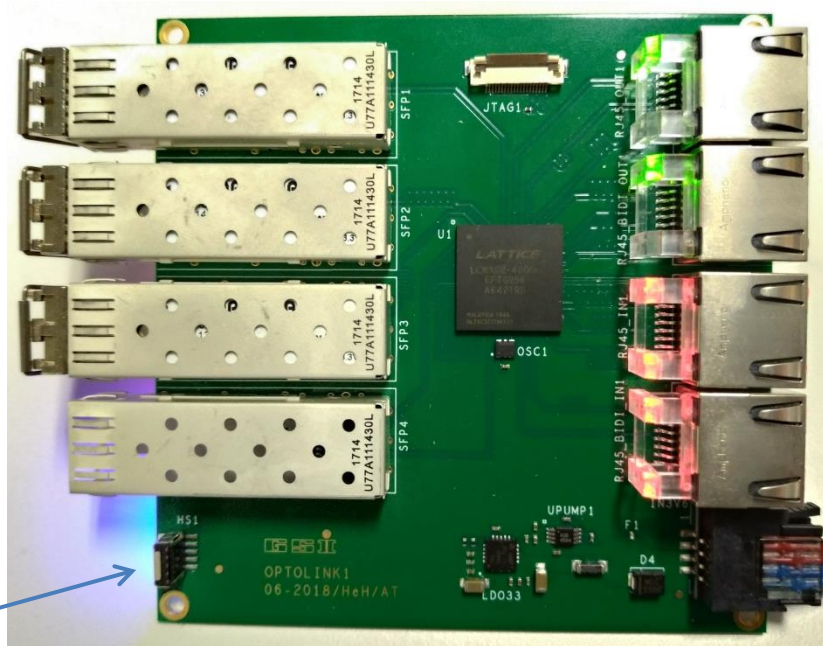
OPTOLINK1 I/O

Fiber side:
4x SFP sockets

Copper side:
4x RJ45 connectors

1 Rx / 1 Tx ↔
1 Rx / 1 Tx ↔
1 Rx / 1 Tx ↔
1 Rx / 1 Tx ↔

HEX switch

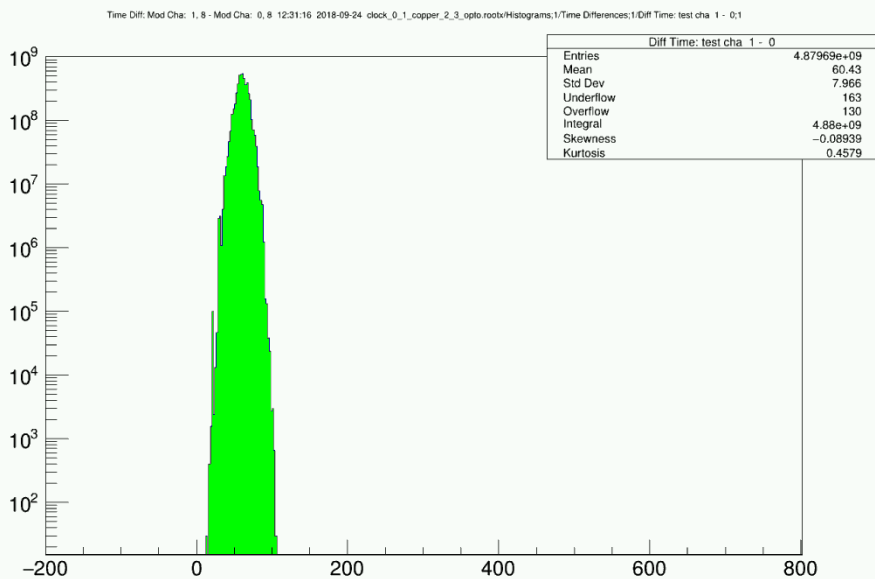


→ 4x LVDS out
↔ 3x LVDS out, 1x LVDS in
← 4x LVDS in
↔ 3x LVDS in, 1x LVDS out

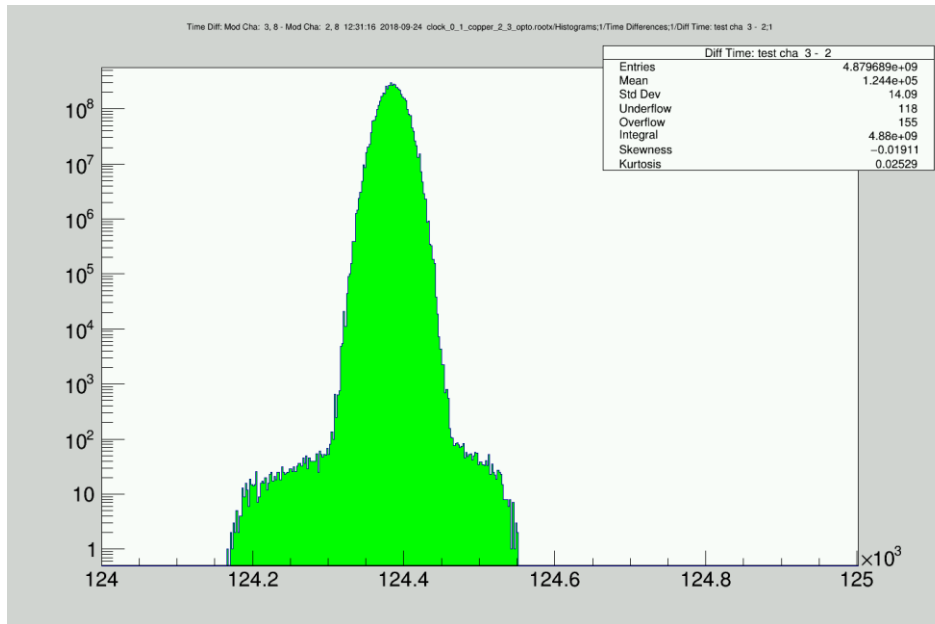
100mm

Clock transmission jitter

Time difference of two channels on separate VFTX modules supplied with a common clock



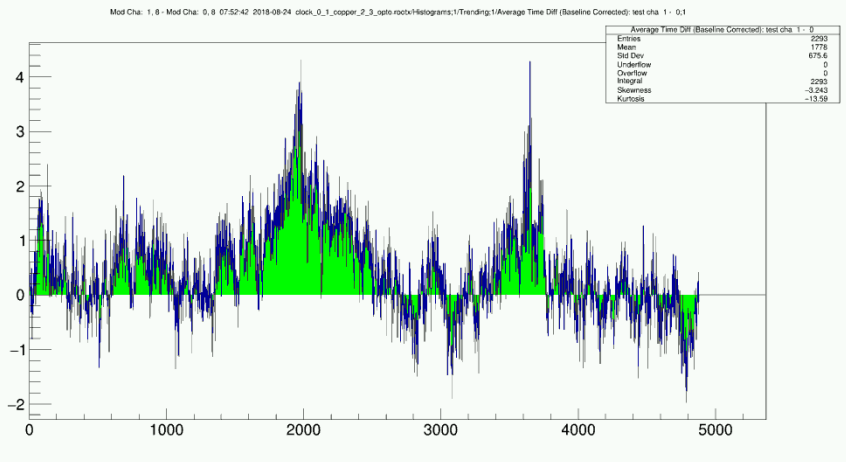
Both clocks connected with 1m copper wires
-> Precision: 8 ps RMS



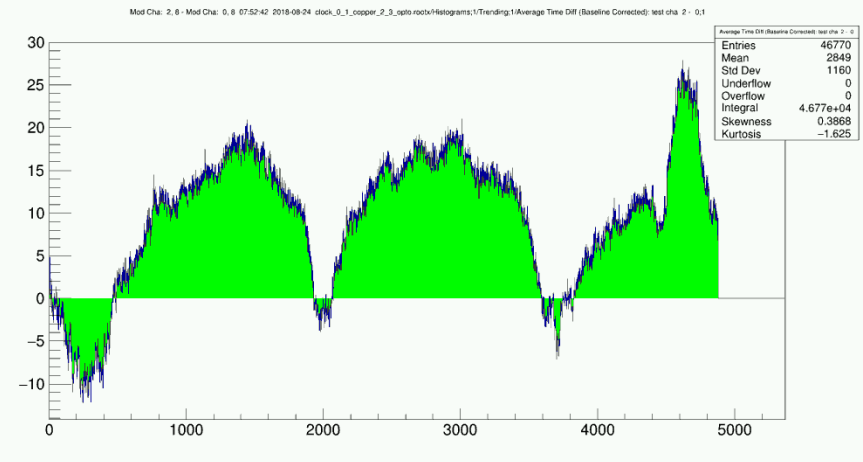
Both clocks transported over 5m optical fiber
-> Precision: 14 ps RMS

Clock transmission (temperature) drift

copper vs copper



copper vs fiber



fiber vs fiber

