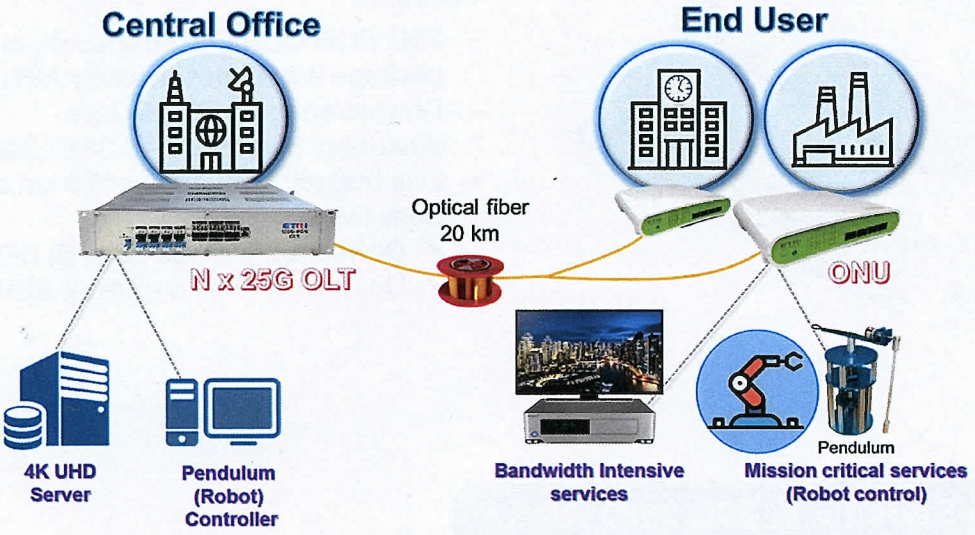
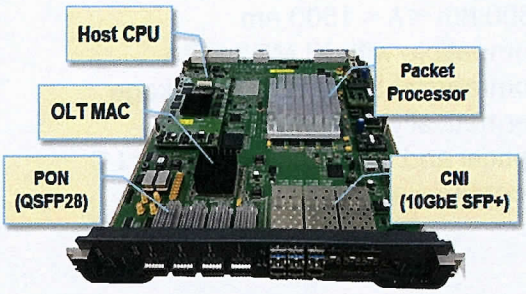
Low Latency Optical Access
(TIC-TOC: Time Controlled Tactile Optical Access)

ETRI developed the 25Gb/s per wavelength optical access technology for 5G network, accommodating bandwidth-intensive as well as mission-critical low-latency services such as AR/VR, 4K UHD, drone and robot control, etc. The MAC/PHY prototype enables multiple wavelengths operation with 25G Ethernet frame transmission with low latency access. A high sensitivity 10 Gb/s burstmode and a 25 Gb/s transceiver provide up & downstream transmission over 29 dB (PR30) of link budget.



Multilane PON

The multilane PON MAC is composed of an 200Gb/s-capable packet processor, single FPGA based N x 25G PON MAC/PHY, 10 x 12GbE CNI, and its related optical modules.



[Multilane PON]

- Features
  - Multilane 50Gb/s PON based on IEEE P802.3ca 100G-EPON
  - 200Gb/s-capable packet process and traffic management
  - Downstream : N x 25.78Gb/s, Upstream : burst N x 10.3Gb/s
  - Supports new MPCP and low-latency DBA (<1ms)
  - 25Gbps FEC
  - 10 x 12GbE for CNI

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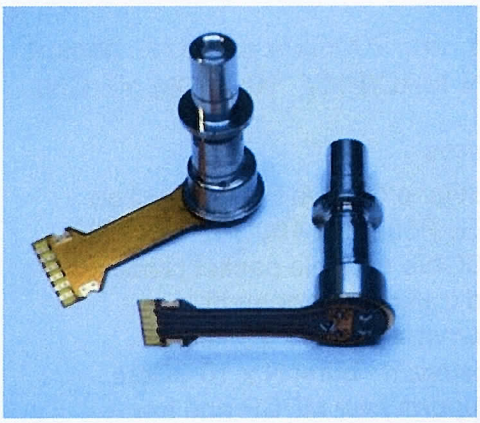
PON Transceiver

The 25Gb/s OLT and ONU PON transceivers enables WDM/TDMA based hybrid PON up to 100 Gb/s.

- Features
  - 25G PON OLT/ ONU transceivers in MSA package with high sensitivity APD ROSA
  - Downstream: 25.78125 Gb/s, Upstream: burstmode 10.3125 Gb/s
  - Link budget: > 29 dB over 20 km at O-band
  - Sensitivity:
    - ✓ Downstream: < -25 dBm @ BER = 10^{-3}
    - ✓ Upstream: < -30.5 dBm @ BER = 10^{-3}

High Sensitivity 25G APD ROSA

The high sensitivity 25G APD ROSA enables 25 Gb/s transmission over 29 dB of link budget.



- Features
  - Sensitivity: < -25 dBm (@ 25.78 Gb/s, PRBS=2^{31}-1, BER = 10^{-3})
  - Operating wavelength range: 1300 nm < λ < 1500 nm
  - Compatible with XLMD2 MSA
  - Commercial 5-pin TO-46 package
  - Hermetically sealed module
  - Optical and electrical interfaces: LC receptacle and flexible PCB

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