100Gb/s Micro-Optical-Module for High-Density Optical Backplane

**TECHNICAL CHALLENGES**
- Realize 100Gb/s transceiver with very small form factor, and low power consumption

**KEY ACCOMPLISHMENTS**
- Micro-package: W9 x L14 x H5.3 mm Pluggable (Electrical and optical)
- Low power consumption of 2 W with highly integrated LSI (20mW/Gbps)
- 1/100 area and 1/15 power consumption of CFP transceiver

**APPLICATION OF THE MICRO-PACKAGING TECHNOLOGY (NEC)**
- 10Gb/s x 12ch transmitter (Tx) and receiver (Rx) with the same form factor
  - 10G x 12ch electrical signal ↔ 10G x 12ch optical signal (850 or 1050nm)
  - Optical devices and LSI are 12ch VCSEL or PD array, LDD or TIA/Lim, for Tx or Rx
  - Faster release planning

**Example of 10Gb/s Optical Transmission Characteristics**
- 1050nm-Tx to Rx, up to 300m
- W9 x L14 x H4 mm