



## Dual 100G OTN Transponder IP Solution

Altera's Dual 100G OTN Transponder IP Solution is the first and only Optical Transport Network (OTN) device in the industry that provides two independent 100G transponders in a single device. Leveraging the high-performance, high-bandwidth Stratix® V FPGAs, Altera can double your 100G framing and mapping density while enabling you to meet your power and cost budget.

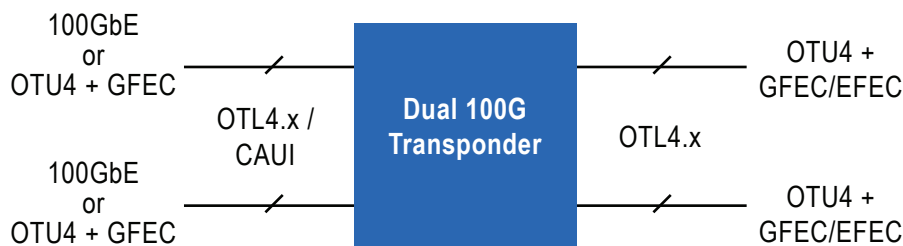
### General Features

- Two independent 100G transponders
- Two OTU4 line ports with G.709 generic forward error correction (GFEC)
- Two client ports dynamically configurable as either 100-Gbps Ethernet (100GbE) or OTU4 with G.709 GFEC
- Altera® industry-leading, high-gain enhanced forward error correction (EFEC) with 7-percent or 20-percent overhead available upon request

### Key Features

- Doubles your 100G port density in a flexible FPGA implementation
- Fully integrated digital core provides dual 100G transponders with client adaptation, OTU4 mapping and framing, and forward error correction (FEC)

### Application Diagram



## Functionality

### Clients

- Dynamically and independently reconfigurable client ports
- 100GbE (CAUI)
- OTU4 (OTL4.10/OTL4.4)

### Line

- OTU4 (OTL4.10/OTL4.4)

### FEC

- G.709 GFEC available on client and line
- Altera high-gain EFEC with 7-percent overhead and 9.3-dB coding gain available upon request
- Altera high-gain EFEC with 20-percent overhead and 10.3-dB coding gain available upon request

### Device

- Stratix V A7 device
- Package: F1517 (40 mm)

### Power

For more information about the power profile, please contact your Altera sales representative.

## OTN Standards Support

### Framing

- Frame alignment signal (FAS) used to frame up and to identify out-of-frame (OOF) and loss-of-frame (LOF) conditions
- Multiframe alignment signal (MFAS) byte

### OTU4 Section Overhead Monitoring

- Trail trace identifier (TTI)
- Bit-interleaved parity 8 (BIP-8)
- Backward error indication (BEI)
- Backward incoming alignment error (BIAE)
- Backward defect indication (BDI)
- Incoming alignment error (IAE)

### ODU4 Path Overhead Monitoring

- TTI, BIP-8, BDI, and BEI monitoring
- Six levels of tandem connection monitoring (TCM)
- Delay measurement insertion and monitoring

### OPU4 Path Overhead Monitoring

- Payload structure identifier (PSI)
- Payload type (PT)
- Justification control (JC)

## Customization

Altera's experienced OTN design team will customize your solution to streamline your integration efforts.

## Software

Altera's hardware abstraction layer (HAL) application programming interface (API) simplifies software integration. The API suite includes functions that provide client and line configuration, alarm propagation, and maintenance signaling.

## Want to Dig Deeper?

For more information about our Dual 100G OTN Transponder IP Solution, please contact your Altera sales representative, or visit [www.altera.com](http://www.altera.com).

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