

The **QT2225** is a dual-port fully integrated 9.95-10.52 Gbps transceiver with adaptive Electronic Dispersion Compensation (EDC). The device provides a high performance interface between a MAC or switch device and copper media including Direct Attach cable and 10GBASE-KR backplanes. The data rate is switchable to 1.25 Gbps, allowing dual 1000BASE-KX / 10GBASE-KR support on a single backplane.

### Features

- Dual port 1G/10G: 1/10GE LAN/WAN & 1/10GFC
- Advanced EDC engine with auto tap weight adjustment & advanced tracking
- 10G high-speed interface with integrated EDC and transmit wave shaping
- XAUI interface with equalization and transmit wave shaping
- Integrated loopbacks and test features
- Compliant to applicable IEEE & INCITS Specs

### Backplane Specific Features

- 1000BASE-KX and 10GBASE-KR data over 1m of backplane and multiple connectors
- Auto-negotiation and training
- Integrated FEC with bypass

### SFP+ Specific Features

- SFP+ modules for limiting & linear applications
- 1GE for SFP
- Passive and Active Direct Attach SFP+ cable support (twinax)

### XFP Module Specific Features

- High performance XFI interface

### Description

It can also interface to optical media including SFP+, SFP and XFP modules. When designing for SFP+ applications, customers can generate one dual-rate design that supports SFP+ modules (10GBASE-R) and SFP modules (1000BASE-X), as well as Twinax cable, providing maximum medium flexibility.

In the receive direction the device uses a sophisticated EDC engine that continuously adapts itself to the channel characteristics providing an optimum level of performance regardless of environmental conditions. The QT2225-1 was designed to exceed the performance specified in the 10GBASE-LRM Standard.

In the transmit direction, the 10Gbps driver utilizes signal equalization to compensate for degradation due to copper traces and connectors in the signal path.

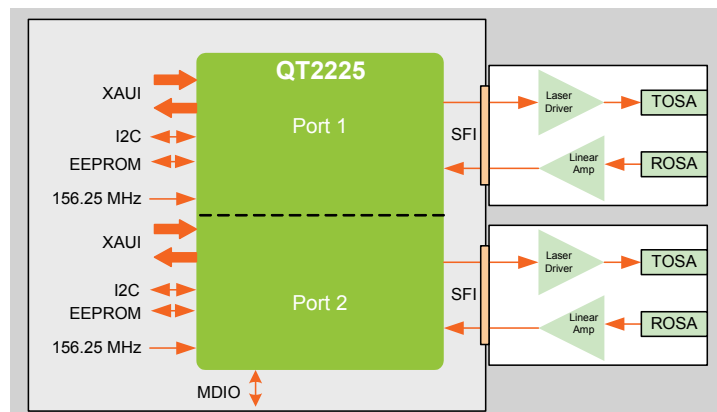
### Applications

#### QT2225:

- Backplane 10GBASE-KR /1000BASE-KX
- Hostboard termination for SFP+/SFP limiting modules including 10GBASE-SR, -LR & 1000BASE-X
- Passive & Active Direct Attach SFP+ cable support
- Hostboard termination for XFP modules including 10GBASE-R & -W protocols

#### QT2225-1:

- Hostboard Termination for SFP+/SFP limiting & linear modules: 10GBASE-LRM, -SR, -LR & 1000BASE-X
- Passive & Active Direct Attach SFP+ cable support



QT2225/QT2225-1 System Block Diagram

## Characteristics

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### Electrical

- Power supplies 1.2 V, 1.8 V
  - Power Dissipation 1.5 W Typ (per port)
  - ESD 2 kV (HBM) except High-Speed I/Os
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### Mechanical

- Package 23 x 23 mm<sup>2</sup> Flip Chip BGA
- Ball spacing 1.0 mm
- Environmentally friendly package RoHS Compliant Option

For technical support inquiries, submit your product related questions to [support@appliedmicro.com](mailto:support@appliedmicro.com).

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