Quake Technologies

THE HIGHLY INTEGRATED SINGLE-CHIP QT2020 LOWERS COST, REDUCES POWER AND IMPROVES RELIABILITY WHILE OFFERING UNPRECEDENTED 10 GB/S PERFORMANCE AND SUPERB JITTER TOLERANCE.

ADVANCED PRODUCT SHEET

QT2020

10 GB/S ETHERNET TRANSCEIVER WITH XAUI INTERFACE FOR IEEE 802.3AE COMPLIANT LAN/MAN APPLICATIONS

WHAT IT GIVES YOU:

An array of well-planned, high-performance features that facilitate the design of 10 Gb/s Ethernet fiber-optic modules.

WHAT IT DOES:

The QT2020 converts a 10 Gb/s serial data stream into four 3.125 Gb/s serial lanes via the IEEE specified XAUI (10 Gb/s attachment unit interface) data bus.

Superior jitter tolerance allows the designer to allocate jitter budget elsewhere in the module design.

On-chip clock generation means no need for external VCXOs, so fewer external components are required.

The QT2020 has an adjustable fiber side output signaling range, which allows a large selection of commercially available laser drivers to be connected directly to the QT2020.

Programmable XAUI peaking provides pre-emphasis adjustment to account for channel loss, which broadens the choice of receivers used in the system.

The QT2020 exceeds the IEEE and Telcordia GR-253-CORE requirements for receiver jitter tolerance, with the demonstrated ability to successfully recover clock and data in stressed eye testing.

Support for the EEPROM interface provides rapid, easy initialization of the device in accordance with the XENPAK Multisource Agreement (MSA).

Fully integrated test features enable quick evaluation and faster time to market. Five loopback modes are available to facilitate lab and system diagnostics.

SOME KEY FEATURES:

— On-chip clock generation and data recovery
— Ethernet monitoring (MDIO/C interface)
— EEPROM interface
— Multiple (5) loopback features
— 2^7-1 PRBS generator and checker on XAUI side
— 2^{31}-1 PRBS generator and checker on fiber side
— Adjustable fiber and XAUI output levels
— Adjustable XAUI pre-emphasis (peaking)
— 3.3 V, 2.5 V and 1.8 V power supplies and low power dissipation
— 64b/66b decoding/encoding; 8b/10b encoding/decoding
— Operates in low power mode
— Programmable XAUI transmit/receive lane ordering
— Optional 10.3125 GHz clock output
— Support for IEEE 802.3ae and XENPAK alarms (LASI)
— Power supply monitoring
— Programmable TXOUT polarity swapping
— Integrated 4 channel 12 bit A/D converter

IDEAL FOR:

IEEE 802.3ae and XENPAK MSA compliant LAN/MAN applications

Product Sheet Rev 1.1.4.1.4.6C

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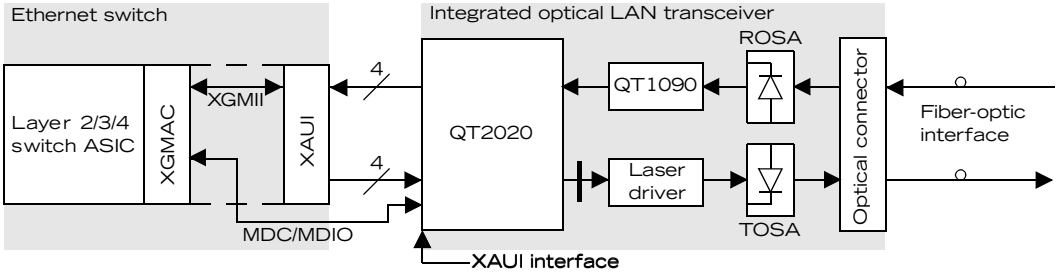
GET HIGHER PERFORMANCE WITH:

The QT2020's ability to immediately pass traffic on power-up and its impressive receiver jitter tolerance, excellent crosstalk isolation and superior 10 Gb/s and XAUI eyes

BLOCK DIAGRAM



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