



Lantiq™ FALC™ ON FTTx System-on-Chip Family

PEB/PEF 98010, PEB/PEF 98020, PEB/PEF 98030

General Features

- Industry's lowest system power consumption
- Single 25 MHz reference clock
- JTAG boundary scan interface according to IEEE 1149.1
- Embedded 32-bit MIPS® CPU
- Available for industrial/commercial temperature range
- PG-LFBGA-304 package: 0.8 mm ball pitch, 17x17 mm²
- Integrated Power Management
 - 10/100/1000BASE-T PHYs with Energy-Efficient Ethernet (EEE)
- - Highly efficient on-chip DC/DC switching regulators to convert 3.3 V power supply
- - Static and dynamic energy-saving techniques

The Lantiq™ FALC™ ON FTTx family of GPON ONU ICs is a scalable, highly integrated, cost-optimized and low-power system-on-chip solution that can be used in all FTTx deployment scenarios. The ICs provide an intelligent and cost-effective solution for managing the optical interface. In fact, the overall optical system performance exceeds the levels defined by the ITU-T G.984.2 standard.

The optical side of a FALC™ ON FTTx device directly connects to a Bi-Directional Optical Sub-Assembly (BiDi OSA/BOSA) component, a photonic IC, or an optical transceiver module. The client side provides up to four GE interfaces for data traffic. Integrated 10/100/1000BASE-T Ethernet PHY modules on the SoC enable direct interfacing with standard magnetics for two 1000BASE-T or four 10/100BASE-T links. On-chip voice processing, used with external SLIC devices, allows up to four FXS ports to be enabled. The comprehensive SoC design includes a burst-mode laser driver, post amplifier and clock and data recovery, as well as a GPON ONU MAC and an on-chip CPU.

Main Features

- System-on-Chip (SoC) for GPON Optical Network Termination (ONU)
- ITU-T G.984-compliant GPON TC sublayer
- Flexible optical interfaces for Bi-Directional Optical Sub-Assembly (BiDiOSA/BOSA) components or optical transceiver modules
- Integrated burst-mode laser driver and APD/PIN receiver
- Flexible L2-L4 packet processing engine with extensive traffic management functionality, compliant with the Broadband Forum TR-156, G.984.4/G.988 and Metro Ethernet Forum Implementation Agreement #10 specifications
- Real GPON wire-speed packet processing with throughput independent of packet size and CPU application processing
- Four triple-speed Ethernet ports
- Two integrated 10/100/1000BASE-T Ethernet PHY modules supporting Energy-Efficient Ethernet (EEE)
- SGMII interface operating at 1 Gbit/s or 2.5 Gbit/s
- Dual RGMII/RMII or single GMII/MII/TMII interface
- Up to four integrated voice codecs with SLIC™ interface

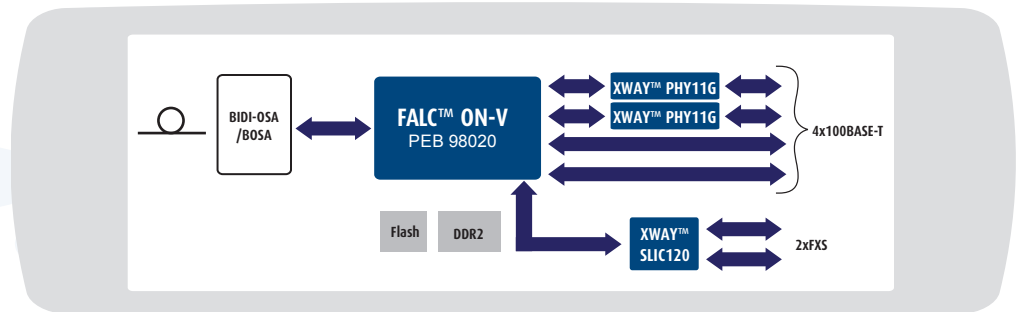
Applications

- Single Family Unit (SFU)
- Home Gateway Unit (HGU)
- Multi-Dwelling Unit (MDU)
- Small Business Unit (SBU)
- Cellular Backhaul Unit (CBU)

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System Diagram Example 4xGE,2xFXS



Product Summary

Product	Sales Code	Package
FALC™ ON-D	PEF/PEB 98010 EL	PG-LFBGA-304, 17 x 17 mm ²
FALC™ ON-V	PEF/PEB 98020 EL	PG-LFBGA-304, 17 x 17 mm ²
FALC™ ON-M	PEF/PEB 98030 EL	PG-LFBGA-304, 17 x 17 mm ²



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Published by Lantiq
85579 Neubiberg, Germany

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Information For further information on technology, delivery terms and conditions and prices, please contact the nearest Lantiq Office (www.Lantiq.com).

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Order Number: PB-e-0040-v4