

Infineon's standard Packet over VDSL (PoVDSL) provides Ethernet transport over standard QAM VDSL. The chipset provides an xMII interface allowing "plug and play" connectivity for Switch/Line cards and CPE applications.

VDSL is a robust, fully standardized technology. Infineon's packet based VDSL system solution delivers transmission speeds exceeding 65 Mbit/s¹⁾. It also provides symmetric 16 Mbit/s or asymmetric 26/3 Mbit/s broadband services at a distance of up to 5000 ft (1500 m) over existing copper wires. Higher rates are possible with reduced ranges.

Infineon's PoVDSL chipset implements QAM modulation, as defined in the VDSL standards. Its spectral allocation enables coexistence with voice and ISDN services on the same line, and with other xDSL technologies in the same bundle.

Packet over VDSL provides fully integrated copper access technology with high resolution video, high-speed Internet and advanced telephony services over a single twisted pair.



PoVDSL

Features

- Ethernet packet transmission over standard VDSL
- FTTC/Cab and broadband extension over copper wire
- Quadrature Amplitude Modulation (QAM)
- Frequency Division Duplexing (FDD)
- 4, 3 or 2 - band operation
- High speed VDSL PHY applications according to ANSI, ETSI and ITU-T specifications
- Transmission of packets over VDSL using standard PTM-TC according to the ITU-T G993.1 VDSL Standard
- Dual latency support with built-in interleaver memory
- IEEE 1149.1 JTAG test access port
- Power Backoff
- Embedded AGC controller
- Embedded interleaver SRAM
- Backward compatibility with the Infineon 2-band 10BaseS chipset

Performance

- Transmission rates exceeding 65 Mbit/s
- Standard data rates up to 16 Mbit/s for symmetric profiles and 52 Mbit/s for asymmetric profiles
- Up 40 Mbit/s symmetric data rates are possible
- Versatile and completely flexible band frequency allocation
- Robust operation under poor conditions
- Full spectral compatibility with amateur radio
- Blind timing recovery and equalization algorithms
- RS-FEC coding with up to eight bytes per code word correction
- Near end and far end digital loopback capability

Interfaces

- 10/100BaseT Ethernet interfaces
- MII in both MAC and PHY modes
- Reduced MII for MAC and PHY

Serial MII

- 2 Mbit/s Pulse Code Modulation (PCM) interface on the non-interleaved (fast) channel
- External host parallel port
- Serial UART interface to a standard serial terminal
- EEPROM interface (I²C)

Internal Processor Support

- Modem initialization and monitoring
- Standalone cold start up
- Firmware upgrades
- Remote modem configuration and management

Power

- 1.8 V core with 3.3 V I/O
- Power Save modes
- Power Down with fast warm start
- Low power consumption (1.5 W for minimal operation)
- Sleep mode and Wake Up
- Remote Wake Up

¹⁾ Speeds above 40 Mbit/s will be available from PEF 22834 V2.0.

Packet Over VDSL

Packet over Standard VDSL Chipset

PEF 22810 (VDSL-L)

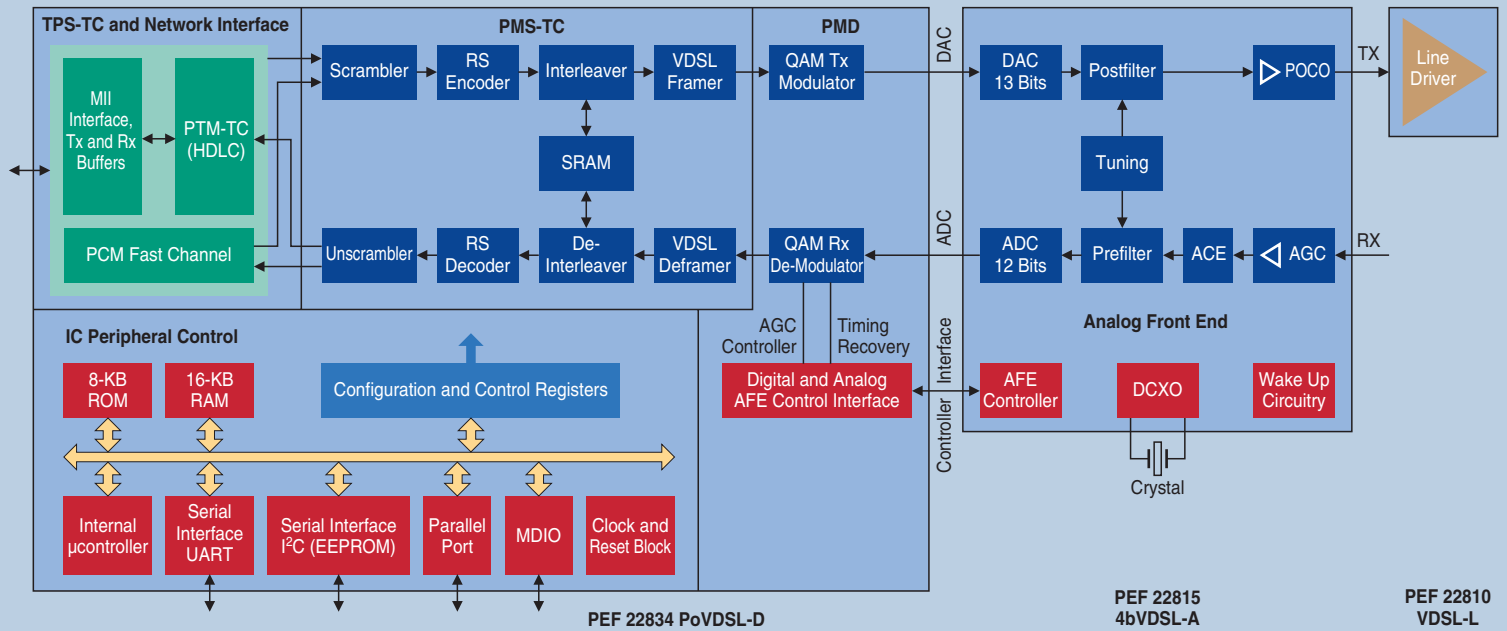
PEF 22815 (4bVDSL-A)

PEF 22834 (PoVDSL-D)



Never stop thinking.

PoVDSL Chipset Block Diagram



Ordering Information

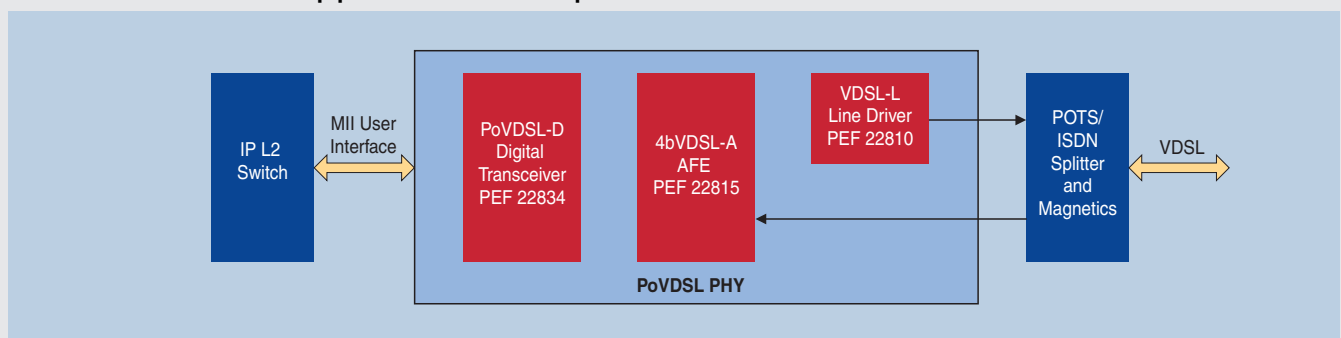
Design Tool

Product Name	Sales Code	Package	Description
PoVDSL Demo Kit	PoVDSL 22834	Two Boards	Packet over VDSL LT and NT Evaluation/Demo Boards

Chipset

Product Name	Sales Code	Package	Description
VDSL-L	PEF 22810	P-DSO-8	VDSL Line Driver IC
4bVDSL-A	PEF 22815	P-TQFP-64	4-band VDSL AFE IC
PoVDSL-D	PEF 22834	P-TQFP-144	Packet Over VDSL Digital Transceiver

PoVDSL Modem Application Example



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