

Lantiq™ SDFE - 4 / 2 / 1 V2

Symmetric DSL Front End, 4 / 2 / 1 Port

Loop Interface

- Line probing according ITU-T G.991.2 (2004)
- Flexible setting of PSD shaping
- Highly sophisticated TC-PAM line coding
- Programmable framer
- Supported TDM clocks: 1.544 MHz, 2.048 MHz, 2.312 MHz, 4.096 MHz, 8.192 MHz, 16.384 MHz

EOC

- 4/2/1 integrated HDLC controllers for EOC handling (one per channel)
- 128-byte FIFO for transmit and receive direction per channel

Customer Interface

- Universal TDM interface
- Bit-serial interface

Modes

- Line termination unit LTU (STU-C)
- Network termination unit NTU (STU-R)
- Regenerator unit COT/RT (SRU-C/R)

Physical Characteristics

- Only two power supplies: 3.3 V, 1.5 V
- Power consumption approximately 500 mW per channel
- Temperature range -40°C to +85°C
- Package P-LBGA-324 (19 mm x 19 mm)
- SDFE-4/2/1 V2 are pin and software compatible

The SDFE-4/2/1 V2 are the members of Lantiq's 3rd generation SOCRATES™ family of SHDSL transceivers designed for TDM applications.

The SDFE-4/2/1 V2 features full compliance with the ETSI TS 101524 and the ITU G.991.2 (G.SHDSL/G.SHDSL.bis) standards. Advanced system functionality and cost saving features continue to provide significant low BOM advantages in the SOCRATES™ tradition. These features, in combination with an unprecedented power consumption of approximately 500 mW per channel, and a very small footprint, make the SDFE-4/2/1 V2 excellent solutions for remote powered repeater designs.

Applications

- ISDN primary rate access replacement
- SHDSL repeater/regenerator
- Digital Loop Carrier (DLC) Systems
- Extended range full and fractional E1/T1
- RITL and WLL systems
- Wireless infrastructure
- SDH and SONET termination
- TU-12 transport
- Leased line services
- PBX trunk lines

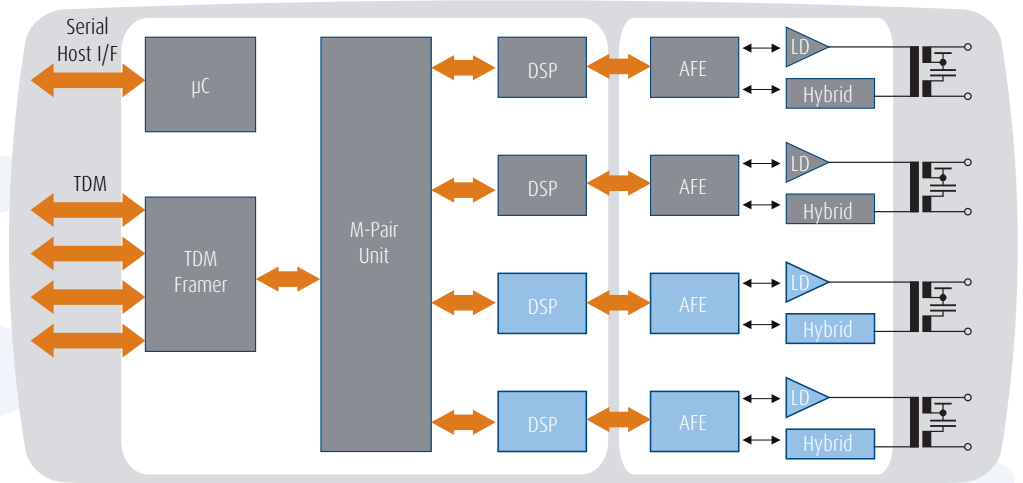
Features

- Fully integrated 4/2/1 channel transceiver solution, including DSP, microcontroller, analog front end (AFE), line driver and memory, in a single integrated chip
- Support of payload data rates from 144 kbit/s up to 15.352 kbit/s with 8 kbit/s granularity (exceeding G.SHDSL.bis)
- M-pair functionality integrated
- Tunable hybrid for optimal loop adaptation and reach
- Only a few external passive components required
- Prepared for Near End Self-Cross Talk Cancellation with separate FW

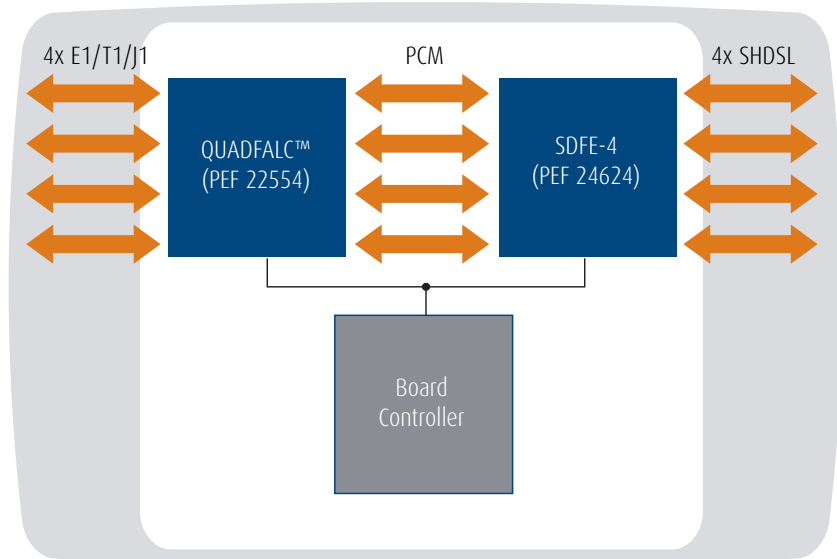
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SDFE 4/2/1 V2 PHY Block Diagram



E 1 / T 1 Replacement Application Example



Product Summary

Product	Sales Code	Application	Package
SDFE-4	PEF24624E	4-Channel Symmetric DSL Front End	P-LBGA-324
SDFE-2	PEF22624E	2-Channel Symmetric DSL Front End	P-LBGA-324
SDFE-1	PEF21624E	1-Channel Symmetric DSL Front End	P-LBGA-324



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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).

Warnings Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Lantiq Office. Lantiq components may be used in life-support devices or systems only with the express written approval of Lantiq, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Order Number: PB-e-0030-v1