Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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UFE412
Universal Front End Processor

Released Product Brief

Product Overview

The UFE412 Universal Front End Processor leads PMC-Sierra's UFE4 product family in features, port density and performance. The UFE412 is a preconditioning co-processor for WinPath3-based Applications targeted for Wireline and Wireless Backhaul Solutions. Together, the WinPath3 and the UFE412 create a platform that enables highly integrated solutions for a range of port densities and bandwidth configurations scaling to 4 x OC-3/STM-1 rate with full APS 1+1 redundancy.
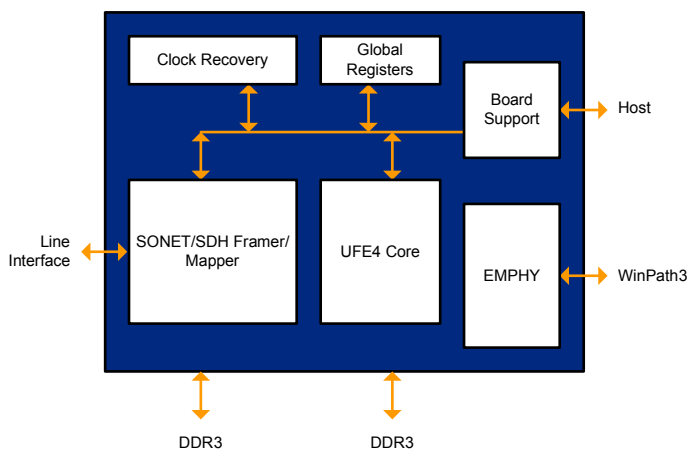
The UFE412 device enables the WinPath3 to efficiently support a variety of services: TDM, ATM, HDLC, PPP, and Circuit Emulation. The WinPath3 itself also supports many protocol interworking services, including CES over PSN, ATM over PSN, IP interworking (routing), ATM cell switching, IMA, ML-PPP and others. The WinPath3/UFE412 platform allows maximum flexibility and feature richness together with efficiency in cost, power and board space.

PMC offers two variants of the UFE412 device. The UFE412-T series is optimized for CESoP/SAToP applications, while the UFE412-M series provides multi-protocol support.

Benefits

- Enables Any Service, Any Port architecture for all backhaul applications
- Provides high performance, fully featured solution
- Lowers overall system BOM cost
- Reduces time to market
- Minimizes design effort and risk

Block Diagram

Product Highlights

- Up to 8 Optical Line Interfaces
- Fully featured Framer/Mapper for up to OC-12/STM-4 bandwidth
- 1344 channels, ranging from a single DS0 to full OC-12c/STM-4
- 1+1 APS protection on all ports (up to 4 working ports and 4 protection ports)
- Up to OC-12/STM-4 total bandwidth
- Requires only 2 x DDR3 devices for full bandwidth. ECC supported.

Data Path Highlights

- Support for CES, ATM, HDLC and POS pre-processing
- Independent Protocol Machines, scalable to the full device bandwidth

Integrated Framer/Mapper

- Each of the 4 ports can be configured as OC-3/STM-1 or OC-12/STM-4 for a total bandwidth of OC-12/STM-4
- Up to 336/252 T1/E1
- Alarms and Events processing via Asynchronous Host Interface
- Overhead Processing via Asynchronous Host interface
- 1+1 APS protection on all ports (up to 4 working ports and 4 protection ports)

Clock Recovery Highlights

- Independent Clock Recovery Per Channel (up to 336 channels)
- Support for both Differential and Adaptive Clock Recovery for all channels

System Bus and Memory Interfaces

- Up to 2 x 16 bit DDR3 @ 400MHz
- Asynchronous peripheral bus for Host control
- 16 bit EMPHY bus towards the WinPath3

Electrical & Mechanical

- 27mm x 27mm 676 FCBGA with 1mm ball pitch
- Estimated power consumption 6 W at nominal clock rate, depending on configuration
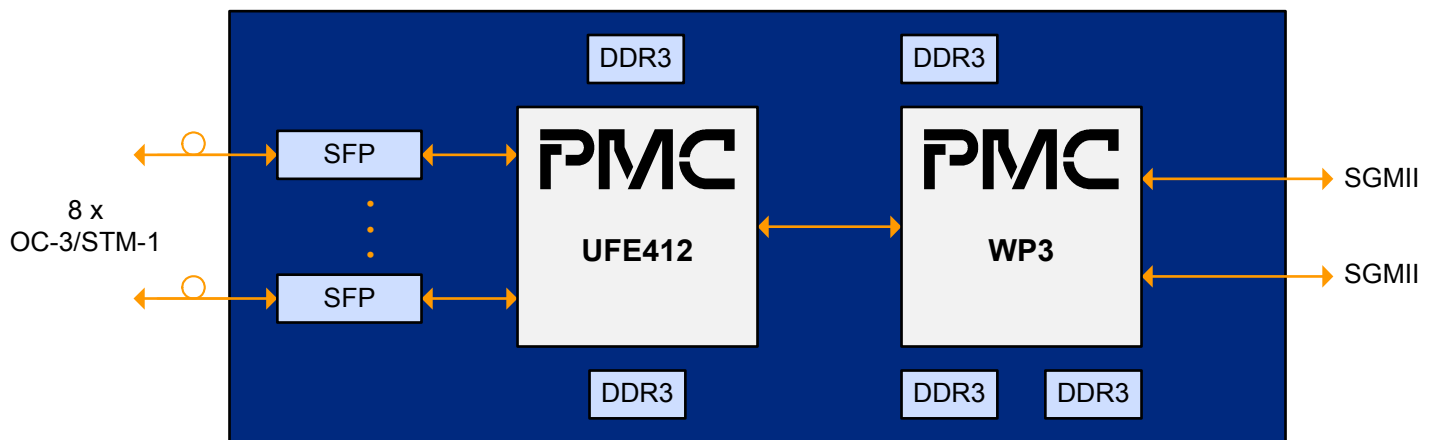
Reference Boards

- UFE412 Reference Boards are available for early software development as add-on boards to standard WDS3 development boards

UFE412 High Level Feature Summary

			UFE412-M4/T4*	UFE412-M2/T2*	UFE412-M1/T1*
Channelized	**Max Bandwidth**		622 Mbit/s	311 Mbit/s	155 Mbit/s
	Protocols	**CESoP/SAToP**	Yes	Yes	Yes
		ATM (IMA)	Yes	Yes	Yes
		PPP/ML-PPP	Yes	Yes	Yes
	Ports		4+4	2+2	1+1
	Description		4xOC-3/STM-1 1xOC-12/STM-12	2xOC-3/STM-1	1xOC-3/STM-1
Concatenated (Clear Channel)	**Max Bandwidth**		622 Mbit/s	311 Mbit/s	155 Mbit/s
	Protocols	**POS**	Yes	Yes	Yes
		ATM	Yes	Yes	Yes
	Ports		4+4	2+2	1+1

* ATM/IMA, PPP/MLPPP and POS protocols are not available on T Series

Typical WinPath3/UFE412 Board

Further Resources

Technology Webpage

www.pmcs.com/products/mobile_network/mobile_backhaul/

Technical Documentation

www.pmcs.com/resources/downloads_support.html

About PMC

PMC (Nasdaq:PMCS) is the semiconductor innovator transforming networks that connect, move and store digital content. Building on a track record of technology leadership, we are driving innovation across storage, optical and mobile networks. Our highly integrated solutions increase performance and enable next generation services to accelerate the network transformation. For more information visit www.pmcs.com.