Flexcomm FIDS42MM1 PrPMC Board

Product Overview

FIDS42MM1 Processor PCI Mezzanine Card (PrPMC) is a high-performance processing element that utilizes Intel® IXP425 network processor which is a low power and high performance XScale CPU. The FIDS42MM1 offers OEMs a standard module to easily customize and upgrade designs and reduce time to market. It can be used in broadband access and edge service markets such as broadband access (Intelligent DSLAM), metro routers, edge service and 2.5/3G wireless system (CDMA2000 or WCDMA system).

The Pn1/ Pn2 connectors of the FIDS42MM1 provide a 32 bit 33/66 MHz PCI interface to the PMC on the carrier board as well as providing power and ground. Two 10/100 BaseT Ethernet ports(NPE) of IXP425 processors are bring out to front panel. For applications requiring additional data interconnect, FIDS42MM1 also provides the third 10/100M FEs port though an INTEL 82559. To maximize interconnection flexibility and bandwidth, the FIDS42MM1 brings two NPEs, fast UART, HSS bus and extend bus to Pn3/ Pn4 PrPMC connectors. So, coupled with different carrier boards, FIDS42MM1 can provide different hardware features to enable OEMs to focus on their application specific requirements while simplifying product development and upgrades.

Application Example

Distribute Application

FIDS42MM1 can be used in distribution applications to replace 6U cPCI CPU board. In following example, network traffic is distributed by front equipment, such as FIDS1200, to multi-FIDS42MM1 to process. In such solution, system density is four times than 6U CPU board solution, and price half.

FIDS42MM1 PrPMC Features

1. 533/400/266 MHz IXP425
2. 8 Mbytes flash (4M, 8M, 16M, 32M)
3. 128 Mbytes SDRAM (256 M)
4. Two UARTs
5. Two HSS /1 USB
6. PMC interface
7. Four 10/100M Ethernet interfaces
8. Front panel
    1) Three RJ45 connectors with LINE/ ACTIVE indicator LEDs
    2) Reset / power indicator LEDs

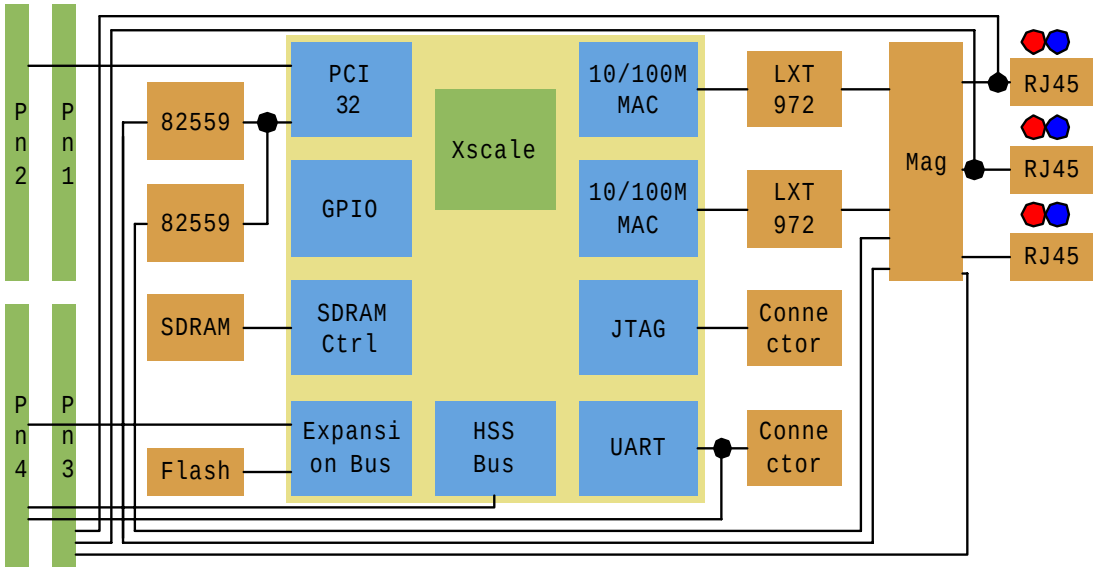
Software Components of SDK

- BSP/ Drivers for RT Linux and VxWorks
- Montavista Linux 3.0(2.4.18 kernel)
- Reference Design, user manual

Physical Description

Description	Specification
Physical Dimensions	Standard PMC board
Power	5 Watts (max.)
Operating Tem	0° to 50° C
Storage Tem	-20° to 60° C

Block Diagram



Benchmarking (RFC2544)

Testing environment:

1) SmartBits 600
2) FIDS425P XScale finishes Ethernet frame RX/TX through two NPEs
3) Test setting

Test duration (sec):	10	Number of pairs:	1
Minimum frame size (bytes):	64	Initial rate (%):	100.00
Maximum frame size (bytes):	1518	Step rate (%):	10.00
Step frame size (bytes):	Custom	Resolution rate (%):	None

4) Testing result

	64	128	256	512	1024	1280	1518
Throughput	100%	100%	100%	100%	100%	100%	100%
Latency (uS)	105.20	103.50	105.20	104.60	106.90	105.90	104.50
Frame Loss Rate (Packet)	0	0	0	0	0	0	0
Back-to-Back frames	1488100	844590	452900	234960	119730	96150	81270

Features and Benefits

Features	Benefits
FIDS42MM1	
Board style	PrPMC
Intel®IXP425 network processor	A flexible and intelligent network processor
Flash	8 MB FLASH (up to 32MB)
SDRAM	128 MB SDRAM (up to 256MB)
Ethernet	Two NPEs and two Intel 82559s
PMC connector	Flexibility to connect a wide range of industry standard I/O modules
Front panel	Reset LED, 2NPE Ethernet ports / one 82559 Ethernet port and their LEDs
FIDS42MM1 SDK 1.0	
BSP/ Drivers for RT Linux	RedBoot is a standardized embedded debug and bootstrap solution
Montavista Linux 3.0	2.4.18 kernel embedded kernel
Documents	About hardware configuration, reference design, user manual.

Flexcomm Access

WEB page www.flexcomm.com.cn
Support Email support@flexcomm.com.cn
Phone support 86-21-54109840,54109960,54109892
Address: 12F, Xu Hui Yuan Building, No. 1089 Zhongshan No.2 Road(S), Shanghai, China