



*i*SPAN[®] 4539 PMC T1/E1/J1 Communications Controller

*Multi-Protocol Communications Controller for CompactPCI and
AdvancedTCA[®] Platforms*

FEATURES

Freescale™ MPC8280
(PowerQUICC II™) on-board
processor @ 450 MHz OR

Freescale™ MPC8264
(PowerQUICC II™) on-board
processor @ 300 MHz

Optional PIM module to provide
T1/E1 rear access

Telecom Clock Management

Four individually software
selectable T1/E1/J1 interfaces

On-board support for multiple
network protocols and
interworkings:

- Q.SAAL/GR-2878
- SS7 (MTP1 & MTP2)
- Frame Relay
- HDLC
- ATM

Narrowband SS7 to Broadband
SS7 inter-working

Pre-integrated protocol stacks
available using Interphase
lower layers and various 3rd
party upper layer stacks

APPLICATIONS

Signaling Gateways (SG)

Serving GPRS Support Nodes (SGSN)

Gateway GPRS Support Node (GGSN)

Media Gateway Controllers (MGC)

Media Gateways (MG)

Softswitches

Application Servers

Home Location Register (HLR)

High Capacity Connectivity

The *i*SPAN 4539 PMC T1/E1/J1 communications controller from Interphase delivers a comprehensive high capacity connectivity solution for use with cPCI or AdvancedTCA[®] platforms to deliver a wide range of Voice over IP, Wireless and IP Multi-Media Subsystem (IMS) infrastructure application elements.

High Performance

With four T1/E1/J1 interfaces, the *i*SPAN 4539 is a high performance solution for signaling applications. The high performance PCI interface to the host enables the *i*SPAN 4539 to be used for advanced signaling applications in the network.

Powerful Solution Architecture

The *i*SPAN 4539 incorporates the Freescale PowerQUICC II communications controller to deliver reliable hardware, coupled with robust software development tools, making the *i*SPAN 4539 a powerful card for reducing cost and development time in the delivery of innovative telecom network solutions.



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iSPAN 4539 Hardware and Software

The iSPAN 4539 carrier-grade communications controller has at its core the Freescale MPC8264 or the MPC 8280 PowerQUICC II™ processor.

Key features of the board include:

- Processor Features
 - **MPC8264** - 300 MHz CPU, 200 MHz CPM
 - **MPC8280** - 450 MHz CPU 300 MHz CPM
- Memory Features
 - 64 bit data bus connecting the CPU to 64MB of SDRAM
 - 4MB of boot code 8-bit FLASH memory for boot and power-on self test
 - 8MB SDRAM memory on the 32 bit Local bus
 - 2 Kb serial EEPROM
- Line Interfaces
 - Four individual software selectable T1/E1/J1 interfaces
 - QuadFALC™ framer support long haul or short haul interfaces, AMI, HDB3 or B8ZS line coding or network termination mode
 - Available with JTAG and TTY debug interfaces
- PCI Interface
 - 32 bit 33MHz PCI 2.2 bus interface
 - PCI 2.2 master/target bus interface with I2O line unit and 4 linked list DMA
 - 32 bit DMA exchanges for high-transfer rates and performance
- Telecom Clock Management
 - The line interface can be configured for line termination – clock slave or network termination – clock master mode
 - Recovered clock available via option P3 and P4 PCI interfaces
 - Three line synchronization sources are supported:
 - Free running internal clock
 - Recovered clock – loop timing
 - Network reference – through the optional P3 or P4 PCI interface
- Software Development Suite and Tools

The Interphase iWARE® Software Development Suite (SDS) for the 4539 provides a broad suite of embedded layer 1 and layer 2 protocol software packages for use with a variety of telecommunications and networking applications. Protocol support includes:

 - Narrowband and Broadband SS7
 - MTP1/MTP2 - Low Speed and High Speed Link
 - Q/SAAL/Q.2140 - ATM High Speed Link

Protocol support includes:

- Narrowband and Broadband SS7
 - MTP1/MTP2 - Low Speed and High Speed Link
 - Q/SAAL/Q.2140 - ATM High Speed Link
- Frame Relay
- LAPD
- HDLC

The SDS provides driver interfaces for many of the standard processors and operating systems and comes with an easy-to-use API for higher level application integration. Processor and operating system combinations supported include:

- Intel® / Linux® - RedHat, MontaVista and SuSE Linux
- SPARC / Solaris™ - with Solaris 10 support
- AMD™ / Solaris - with Solaris 10 support
- PowerPC / Linux

The tools suite includes the Board Development Kit (BDK) for the development of customer device drivers, embedded protocol firmware and applications for the 4539 hardware module.

Technical Specifications

Architecture	
Bus Type	PMC (PCI 2.2 Compliant)
Bus Data Transfer	32-bit, 33 MHz
Memory	64 MB SDRAM
Mechanical	
Length	149 mm (5.86 in.)
Width	74 mm (2.9 in.)
Indicators	Board operational, link active
Operating Environment	
Power Dissipation	5.51 W maximum (MPC8280) or 6.1W maximum (MPC8264)
Temperature	0 to 55 °C (32 to 131 °F)
Storage Range	-40 to 80 °C (-40 to 176 °F)
Relative Humidity	5% to 95% non-condensing
Altitude	0 to 15,000 ft
Environmental Power	
	• 3.3 V 1.58 A
Compliance	
	• FCC part 15 class A
	• CE class A
	• EN 55022
	• EN 60950
	• FCC part 68
	• CS03

Corporate Headquarters

2901 N. Dallas Parkway
Plano, Texas 75093
1-800-FASTNET
Phone: + 1.214.654.5000
Fax: + 1.214.654.5500

European Headquarters

Centre d'affaires 10ème
Avenue
855, avenue Roger Salengro
92370 Chaville - France
Tél.: + 33 (0) 1 41 15 44 00
Fax: + 33 (0) 1 41 15 12 13

About Interphase Corporation

Interphase Corporation (NASDAQ: INPH) delivers solutions for network connectivity, interworking, and packet processing for key applications for the communications, Mil/Aero, and enterprise markets. Founded in 1974, Interphase provides expert customization services and contract manufacturing, in addition to its COTS portfolio, and plays a leadership role in next generation AdvancedTCA® (ATCA), AdvancedMC™ (AMC), PCI-X, and PCIe standards and solutions. Interphase is headquartered in Plano, Texas, with sales offices across the globe.

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