



iSPAN® 5539 PCI T1/E1/J1 Communications Controller

Quad Port PCI Board for Signaling Applications

FEATURES

Freescale™ MPC8280 (HiP7) (PowerQUICC II™) on-board processor @450 MHz

Four individually software selectable T1/E1/J1 interfaces

Fast Ethernet port for management and data traffic

High bandwidth PCI host connectivity

On-board support for multiple network protocols and interworkings:

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

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

Custom development services also available via the Interphase Professional Services Group

APPLICATIONS

Gateway GPRS Support Node (GGSN)

HLR/HSS

Serving GPRS Support Nodes (SGSN)

Application Servers

Media Gateways/Media Servers Signaling Gateways

Softswitches

Short Message Switching Centres (SMSC)

The iSPAN 5539 PCI T1/E1/J1 communications controller from Interphase delivers a comprehensive high capacity connectivity solution for use with PCI enabled rack-mount server solutions to deliver a wide range of Voice Over IP, Wireless and IP Multi-Media Subsystem (IMS) infrastructure application elements.

Performance and Capacity

With 4 T1/E1/J1 interfaces the iSPAN 5539 provides a high capacity solution for signaling applications and enables optimization of slot usage within the server. With a high performance PCI interface to the host the iSPAN 5539 is a line card that can be used with new high-performance servers to meet the requirements of advanced signaling applications in the network.

Powerful Solution Architecture

The iSPAN 5539 incorporates the Freescale PowerQUICC-II communications controller to deliver high performance and high capacity processing of signaling traffic. With the inclusion of the higher performance processor this board and the availability of the industry proven lower layer protocol stacks from Interphase, this board can be used as a drop in replacement for the iSPAN 5539F PCI solution for applications that demand a performance boost with the user of higher performance server solutions.





5539 Solution Components

Processor/Memory

- PowerQUICC II (MPC8280) RISC processor allows full support of various communications protocols, reducing host CPU processing
- 450 MHz core, 300 MHz CPM, 855 MIPS PowerQUICC II (MPC8280)
- 128 MB of SDRAM system memory
- 8 MB of SDRAM for connection memory
- 4 MB downloadable 8-bit Flash Memory

Front Panel Line Interfaces

- Four individually software selectable T1/E1/J1 lines
- QuadFALC™ framer supports long haul or short haul interfaces, AMI, HDB3, or B8ZS line coding and various superframe formats
- One RJ-45 Fast Ethernet interface for remote boot or LAN capability with 10/100 Base-T transceiver

PCI Interfaces

- 32-bit, 66 MHz PCI interface
- PCI 2.2 master/target bus interface with I20 messaging unit and four linked list 32-bit DMA exchanges

Telecom Clock Management

- 5539 can select a synchronization source from any T1/E1/J1 line
- Line interfaces can be configured in LT (clock slave) or NT (clock master) mode
- The four T1/E1/J1 lines can have independent clock rhythms
- The 5539 provides its own fixed frequency clock rhythm or the rhythm can come from one of the four lines receive signal
- Provides internal and external loop back capabilities
- LAN interface can be negotiated for full duplex or half duplex 10Mbps or 100Mbps operation

Software

Interphase offers a robust suite of software development tools to help shorten the learning curve and design cycle for integration projects.

Board Development Kit

The 5539 BDK is specific to the 5539 hardware and not tied to a particular operating system environment. The kit contains the following main components:

- Boot Firmware with power on self test, power on boot sequence, built in self test and configuration via a command line interface
- Documentation including hardware reference manual, board Installation and maintenance manual and Built in Self test Manual
- Setup and Built in Self test utilities

iWARE® Software Development Suite (SDS)

The iWARE SDS suite is an integrated set of embedded firmware, host drivers and utilities to accelerate application development and ease integration of the iSPAN 5539 to deliver end applications. The protocols provided in the SDS are:

- SS7 MTP1 and 2
- ATM AAL0, AAL2, and AAL5, with IMA capability
- HDLC
- Frame Relay
- SSCF and SSCOP for Q.SAAL

Custom Development

Custom software development, integration, and consulting services are also available via the Interphase Professional Services Group.

Technical Specifications

Architecture

Processor	MPC8580-PQII 450 MHz
RAM Memory	128 MB SDRAM; 8MB SDRAM for connection memory
ROM Memory	8 MB NOR Flash
Host Connectivity	PCI 2.2 32 bit
Line Interfaces	4 software selectable T1/E1/J1 interfaces; 1 Fast Ethernet port for data or management

Mechanical

Form Factor	PCI 2.2 Short Length Card
Length	174.6 mm (6.8 in)
Height	106.68 mm (4.2 in)

Operating Environment

Power Dissipation	8W maximum
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

6/7/10

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About Interphase Corporation

Interphase Corporation (NASDAQ: INPH) is a leading provider of robust building blocks, highly integrated subsystems and innovative gateway appliances for the converged communications network. Building on a 30-year history of providing advanced I/O solutions for telecom and enterprise applications, and addressing the need for high speed connectivity, Interphase has established a key leadership role in delivering next generation AdvancedTCA® and AdvancedMC™ solutions to the marketplace.

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