KIC551

3U CompactPCI S.0 PCIe/GB Ethernet Switchboard

KIC551
with conduction cooling

KIC551
with air cooling
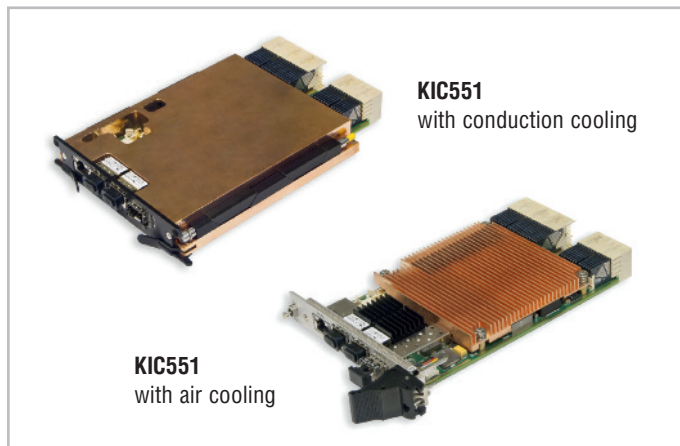
Features

- CPU: Intel Pineview-D Dual Core (D510) 1.66 GHz
- Compliance with PICMG® CPCI-S.0 R1.0, PCI Express® 3.0 specification, PCI Express® External Cabling Specification rev.1
- Compatibility with OS: Windows 7, Linux 2.6
- Dimensions: 3U: 160 mm × 100 mm , 4HP
- Power supply: +12 V
- MTBF: No less than 80 000 hours

Overview

KIC551 PCIe/GB Ethernet Switchboard is designed for building modular systems based on CompactPCI Serial form-factor.

Technical Specifications

PCIe Gen 3 interface

Support of Peer-to-Peer operating modes and Multicast
- Possibility of flexible port configuration in x1, x4, x8 modes
- Possibility of Upstream port switching
- Support of switching 54 channels/12 ports PCIe Gen2/3
- Switching of up to 8 PCIe ports, routed to the backplane with PCIe port, routed to the front panel

PCIe bus extension via optical channel (for 01 version)

- Bus width – 8 x PCIe
- Support of GEN3 throughput capacity (8 Gb/sec.)
- Cable connection MPO 12 Fiber 50um MMF (2 cables)
- Maximum connection length – 50 m
- Fiber Optic maximum connection speed PCI Express – 64GT/s

1 Gb Ethernet interface

- Switching of 1000BASE-T channels, routed to the backplane with 1000BASE-T on the front panel
- Durability isolation is no less than 100V for the channels, routed to the backplane
- Durability isolation is no less than 500V for the channels, routed to the front panel
- Ensuring communication of peripheral modules using the Intel AMT technology

Optical Ethernet 10 GB

- Connection of SFP+ modules
- Ensuring the speed channel for transfer of data

Configuration FPGA

- Control of incoming charge supply
- Boot support from the backup programmable read-only memory in case
WD timer actuates
- Configuration and loading of switchboards PCIe and 1Gb Ethernet
- Support of firmware upgrade via Ethernet channels
- Indication of module operation

Supported standards

- PICMG® CPCI-S.0 R1.0 March 2, 2011
- PCI Express® 3.0 specification
- PCI Express® External Cabling Specification Revision 1.0 January 4, 2007
- PCI Express® Base Specification Revision 2.0 December 20, 2006
- SFF-8431 Specifications for Enhanced Small Form Factor Pluggable Module SFP+

Power supply

- +12 V

Maximum current consumed KIC551 from external power supply source

- 3.5 A

Corresponds to RoHS

For conduction version, the device corresponds to the groups

- 1.1, 1.2, 1.3, 1.4.1, 1.6.4, 2.1.1, 2.1.2, 2.2.1, 2.3.1 in accordance with the GOST RV 20.304-98 standard

For air-cooling version the device corresponds to the groups

- 1.3, 2.1.1, 2.1.2, 2.2.1, 2.3.1 in accordance with the GOST RV 20.39.304-98 standard

Compatibility with OS

- Windows 7
- Linux 2.6

Dimensions

- 3U: 160 mm × 100 mm , 4HP

MTBF

- No less than 80 000 hours

Fastwel

Operating Conditions

With air cooling

Type of exposure	Parameter name	Parameter value	Document
Change of temperatures	Low temperature	–40 (0*) °C	GOST 28209-89 (IEC 68-2-14-84)
	High temperature	–85 (+70*) °C	
Humidity	Relative humidity	Up to 80% without	GOST 28209-89 (IEC 68-2-14-84)
Damp heat (+55C°) (for coated devices)**	Relative humidity	Up to 93%	GOST 28216-89 (IEC 68-2-30-82)
Sinusoidal vibration	Frequency range (Hz)	10…150	GOST 28203-89 (IEC 68-2-6-82)
	Acceleration, g	2	
Single shocks	Peak acceleration, g	50	GOST 28213-89 (IEC 68-2-27-87)
Multiple shocks	Peak acceleration, g	25	GOST 28215-89 (IEC 68-2-29-87)
	Number of shocks	1000	

 * For commercial version
** Only for COATED versions. Only durability of device is guaranteed

With conduction cooling

| Type of exposure	Parameter name	Parameter value	Document
Elevated temperature, operating temperature		+85°C	GOST RV 20.57.306-98 standard
Elevated temperature, limit temperature		+85°C	GOST RV 20.57.306-98 standard
Reduced temperature, operating temperature		–55°C	GOST RV 20.57.306-98 standard
Reduced temperature limit temperature		–65°C	GOST RV 20.57.306-98 standard
Temperature change		From the reducedlimit temperature to the elevated	GOST RV 20.57.306-98 standard
High humidity		98% at +35°C	
Atmospheric precipitation		15 mm/min	
Static dust		5 g/m³ at the air speed	
Dynamic dust		5 g/m³ at the air speed	
Sinusoidal vibration	Frequency range (Hz)	1–500 Hz	GOST RV 20.57.305-98 standard
	Acceleration, g	6g	
Single shocks	Peak acceleration, g	75g length 1–5 ms	GOST RV 20.57.305-98 standard
Multiple shocks	Peak acceleration, g	15g length 5–15 ms	GOST RV 20.57.305-98 standard
	Number of shocks	10 000	

Board Layout

KIC551 Integrated PCIe and 1Gb Ethernet Switch
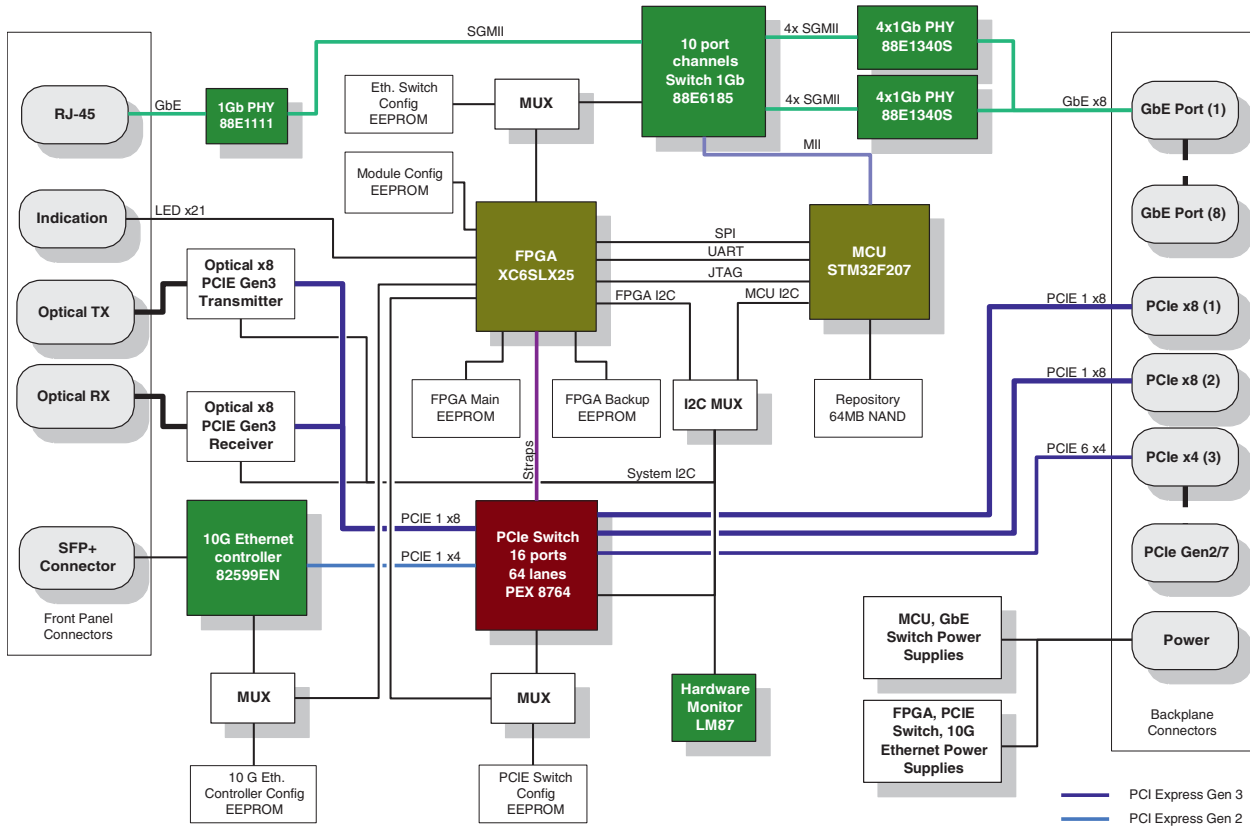
Ordering Information

Configuration KIC551 with Air Cooling

KIC551 - 01 - C

Configurations

KIC551-01-C	Optical Ethernet 10 GB, PCIe Optical x 8, 1 GB Ethernet, commercial version, air cooling
KIC551-01-I	Optical Ethernet 10 GB, PCIe Optical x 8, 1 GB Ethernet, industrial version, air cooling
KIC551-02-C	Optical Ethernet 10 GB, 1 GB Ethernet, commercial version, air cooling
KIC551-02-I	Optical Ethernet 10 GB, 1 GB Ethernet, industrial version, air cooling

Configuration KIC551 with Conduction Cooling

KIC551 - RC - 01 - I

Configurations

KIC551-RC-01-I	Optical Ethernet 10 GB, PCIe Optical x 8, 1 GB Ethernet, industrial version, conduction cooling
KIC551-RC-02-I	Optical Ethernet 10 GB, 1 GB Ethernet, industrial version, conduction cooling

KIC551 Available Options

Coating	
\COATED	Conformal coating

Delivery checklist

KIC551 delivery checklist contains:

1. KIC551 Module
2. Packaging

Corporate Offices

FASTWEL GROUP Co, Ltd

108 Profsoyuznaya str.
Moscow, Russia 117437
Tel: +7 (495) 232-1681
Fax: +7 (495) 232-1654
E-mail: info@fastwel.com
Web: www.fastwel.com

FASTWEL Corporation US

Fastwel Corporation US
6108 Avenida Encinas,
Suite B, Carlsbad,
CA 92011.
Phone: 858-488-3663
E-mail: info@fastwel.com

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RoHS