

LEON3 and LEON4 Development Boards GR-CPCI-XC4V and GR-PCI-XC5V



Board Description

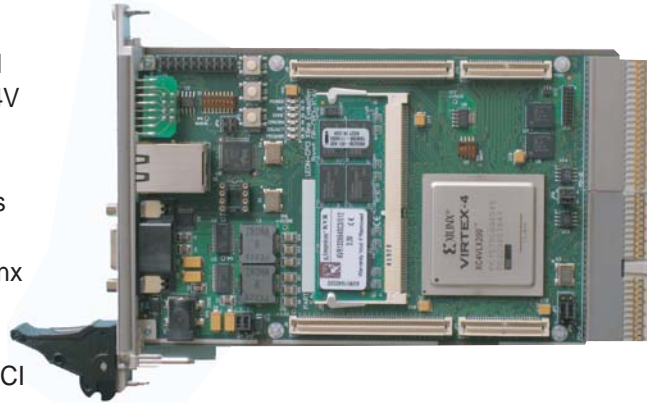
In cooperation between Aeroflex Gaisler and Pender Electronic Design the GR-CPCI-XC4V and GR-PCI-XC5V are FPGA development boards conceived especially to support the development and fast prototyping of systems based on the LEON microprocessor.

These boards incorporate large capacity Xilinx Virtex4™ and Xilinx Virtex5™ field programmable gate arrays, and are implemented in both Compact PCI and 'Classic' PCI form factors.

Whilst the boards are perfectly suitable as general purpose development platforms for any Xilinx FPGA project, the incorporation of on-board volatile (SRAM and SDRAM) and non-volatile memories (FLASH), together with Serial and Ethernet interfaces makes these boards ideal for implementing LEON designs. Pender Electronic Design provides a number of accessories and mezzanine boards to assist the user in prototyping their systems.

The boards are capable of operating in a stand-alone configuration, as PCI plug-in cards, or can be configured as a PCI host in passive PCI backplane applications.

Additionally, the design of these boards can support the implementation of LEON-FT fault-tolerant systems if the implemented core incorporates these features. For the User Manuals and more detailed information for the boards and their features, please refer to the Pender Electronic Design web-site (www.pender.ch).

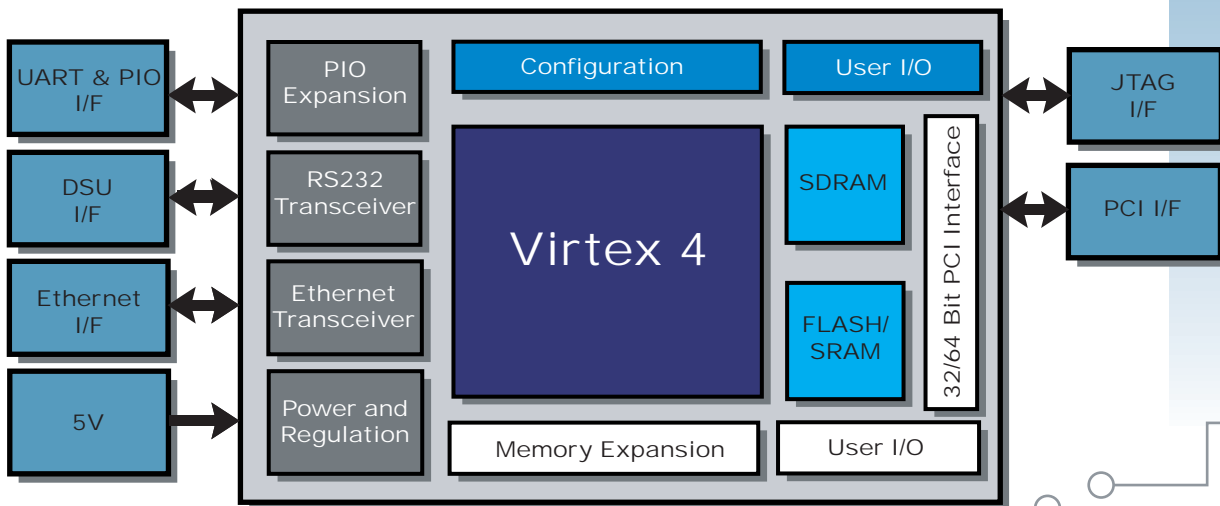


LEON Applications and Support

The LEON processor is a synthesisable VHDL model of a 32-bit processor with an instruction set compliant to the SPARC V8 instruction set.

The LEON processor, both as an FPGA and as an ASIC has been incorporated in numerous Aerospace, Industrial and Consumer electronics designs. The LEON design is unique in its source-code availability, offers the user extensive configuration options and full flexibility in the use and extension of the core's functions to suit the user's specific application and interfaces.

For more information on the LEON core, the VHDL model, synthesis, configuration, hardware and software development tools, IP core developments and Real-Time Operating Systems, please refer to the Aeroflex Gaisler web-site (www.aeroflex.com/gaisler).



SPECIFICATIONS	GR-PCI-XC5V	GR-CPCI-XC4V
Format	Standard PCI	3U Compact PCI
FPGA		
Type	Virtex5 LX50 (non-standard option on request for LX85/110)	Virtex4 LX100 (non-standard option on request for LX160/200)
Configuration memory	1 x 32 Mbit	2 x 32 Mbit
Programming	JTAG	JTAG
Memory		
SRAM	on-board 80 Mbit	add via Mezzanine
SDRAM	SODIMM up to 512 MByte	SODIMM up to 512 MByte
FLASH	on-board 128 Mbit	on-board 128 Mbit
Interfaces		
PCI	PCI, 32 bit	Compact PCI, 32/64 bit
Ethernet	10/100/1000 Mbit PHY	10/100 Mbit PHY
Debug Support Unit	yes	yes
PIO port	yes	yes
Memory I/O	yes	yes
User I/O	up to 176	up to 176
USB 2.0	yes	no
Accessory Boards		
2 x RS232 interface	✓	✓
2 x RS422 interface	✓	✓
2 x LVDS interface	✓	✓
2 x CAN interface	✓	✓
Mezzanine Boards		
2 x Spacewire (LVDS) + 2 x RS232	✓	✓
SRAM 8 MByte	✓	✓
MIL-STD-1553B interface	✓	✓

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