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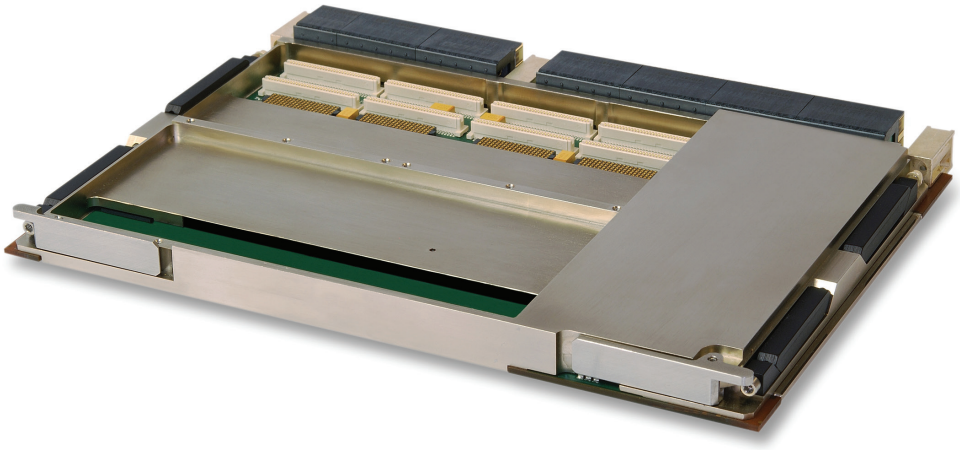
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Find the *Abaco Systems SBC622-13210003* at our website: ***Click HERE***



SBC622

Intel Core i7 Based Rugged 6U VPX Single Board Computer

The VPXcel6 SBC622 rugged single board computer (SBC) from Abaco Systems features the highly integrated Core i7 processor platform from Intel. Core i7 offers integrated graphics and memory controller plus dual core processing up to 2.53 GHz. Coupled with the Mobile Intel QM57 Express Chipset this provides an unmatched level of I/O bandwidth for both on-board and off-board functions.

Features of the Core i7 processor

- Intel Intelligent Power Technology allows processors to operate at optimal frequency and power
- Intelligent performance on-demand with Intel Turbo Boost Technology
- Multi-level shared cache improves performance and efficiency by reducing latency to frequently used data
- Hyper-Thread Technology – 2 threads per core
- Streaming SIMD extensions 4.1/4.2

For enhanced system flexibility, the SBC622 offers two on-board mezzanine expansion sites, both of which offer PMC and XMC capability

The BIOS Flash is optionally backed with a second Flash device in order to be able to recover the BIOS in case of the primary BIOS getting corrupted. The Flash device is large enough to optionally host additional pre-boot applications, for example Built-In Test (BIT).

The SBC622 is designed to meet the requirements of a wide range of applications from industrial through to fully rugged Defence and Aerospace programs.

Available in five air- and conduction-cooled build levels, the SBC622 is fully supported by comprehensive Deployed Test Software (BIT and BCS) and OS support for VxWorks, Windows and Linux.

FEATURES:

- Intel® Core® i7 Processor up to 2.53 GHz
  - Integrated two channel DDR3-1067 memory controller with ECC
  - Integrated graphics controller
- Up to 4 MB shared cache
- Up to 8 GB soldered DDR3 SDRAM with ECC
- Up to 8 GB NAND Flash (soldered)
- Dual on-board Expansion Sites:
  - 2x PCI-X PMC /XMC
- Front I/O (air cooled only)
  - 1x Gigabit Ethernet port
  - 2x USB
  - 1x COM port
- Rear IO
  - x16 or 4 x4 PCIe (1 x4 NTB capable)
  - 2x 10 Gigabit Ethernet ports
  - 4x Gigabit Ethernet ports
  - 1x DVI/VGA
  - 3x SATA ports
  - 2x COM ports
  - 6x USB ports
  - 8x GPIO
  - 2x XMC/PMC IO signals
- Optional conduction cooling
- Optional extended operating temperature range
- Single slot 6U VPX form factor
- Compliant to VITA 46.0, 48.0
- OpenVPX (VITA 65) compliant
  - MOD6-PAY-4F1Q2U2T-12.2.1-8
- Operating system support for VxWorks®, Linux®, and Windows®.

abaco SYSTEMS

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SBC622 *Intel Core i7 Based Rugged 6U VPX Single Board Computer*

Specifications

Processor
- Intel Core i7 32 nm Processor
  - ULV @ 1.06 GHz
  - LV @ 2.0 GHz
  - SV @ 2.53 GHz
- Up to 4 MB shared cache
- Integrated two channel DDR3-1067 memory controller with ECC
- Integrated graphics controller

SDRAM
- Maximum memory configuration of up to 8 GB DDR3 SDRAM soldered with ECC

Flash Memory
- Soldered NAND flash array up to 8 GB

UEFI (replaces BIOS)
- The SBC622 System UEFI includes all functions required by the processor core and chipset
- Also supports expansion ROM code for remote booting from Ethernet ports

10 Gigabit and Gigabit Ethernet
- Intel 82599EB Dual 10 Gigabit Ethernet controller with 2x 10 GigE to P1
- Intel 82580 Quad Gigabit Ethernet controller - 4x GigE to P4, or 3x to P4 with 1x to the front panel

Note: GigE ports 1 and 2 are 1000BASE-T. GigE ports 3 and 4 are 1000BASE-BX

USB Ports
- 8x USB 2.0 ports: 2x routed to front panel I/O, 4x to P6, and 2x to P4
- Keyboard and Mouse (PS2) emulation via USB

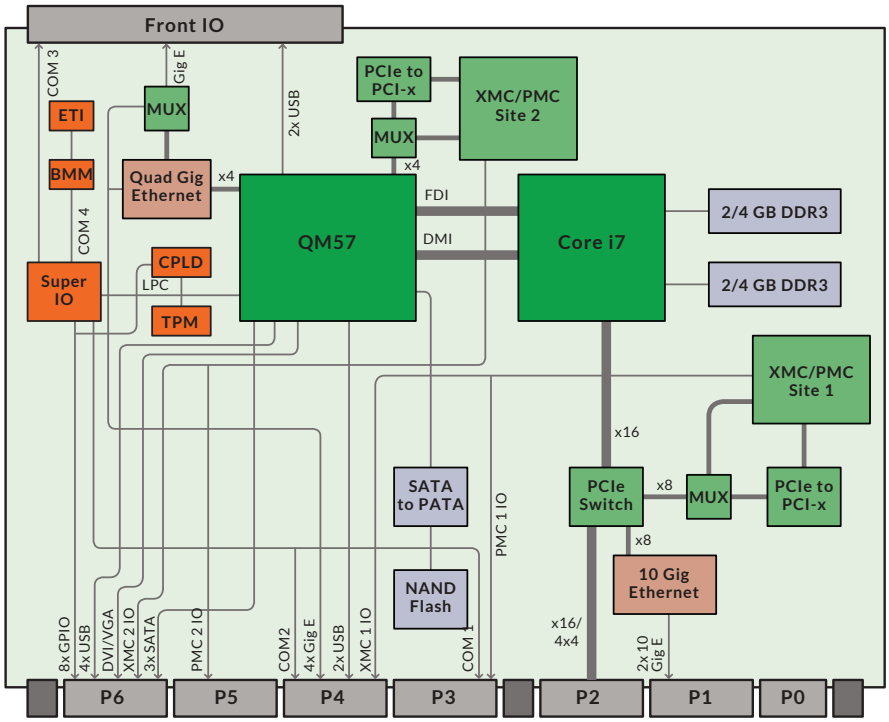
Fabric Interface
- Expansion plane: x16 PCIe or 4 x4 PCIe to P2 (1 x4 non-transparent capable)
- Data plane: 2x 10 Gigabit Ethernet to P1

OpenVPX Profile
- Slot Profile: SLT6-PAY-4F1Q2U2T-10.2.1
- Module Profile: MOD6-PAY-4F1Q2U2T-12.2.1-8

Serial Ports
- 3x 16550 compatible full duplex async serial ports
- COM3 routed to front panel RS45
- COM1 routed to P3, and COM2 routed to P4, with user selectable RS232/422/485
- Ports feature independent 16-byte FIFO supporting baud rates up to 115 Kbaud

PMC/XMC Expansion
- 2x on-board mezzanine expansion sites , both of which are PMC (PCI-X up to 64bit /133MHz) and XMC (XMC/PMC1 is x8 PCIe Gen 2, XMC/PMC2 is x4 PCIe Gen 2) capable
- PCI signaling is 3.3V, with 5V tolerance when operated at 33 MHz
- XMC/PMC1: PMC I/O routed to P3, XMC I/O routed to P4
- XMC/PMC2: PMC I/O routed to P5, XMC I/O routed to P6

Block diagram



SATA
- 3x Gen 2 (3 GB/s) SATA ports to P6

GPIO
- 8x GPIO pins (software configurable) to P4/P6

Video
- Provided via integrated Intel Graphics Controller
- DVI/VGA to P6

Power requirements
- +5V and +12V (plus ±12V_AUX if required by mounted PMC module)

Watchdog/RTC/Temp sensors
- Software programmable watchdog timer
- Legacy PC-AT timer and HPET (High Precision Event Timer) provided from Ibex peak controller
- CPU die and Chipset die, software readable

Transition Module
- VPX6UX604

Software
- VxWorks
- Linux
- Windows
- Deployed Test Software (BIT and BCS)

Environmental

	Level 1	Level 2	Level 4	Level 5
Cooling Method	Convection	Convection	Conduction	Conduction
Conformal Coating	Optional	Standard	Standard	Standard
High/Low Temp	0 to 55°C	-20 to +65°C	-40 to +75°C	-40 to +85°C
Operational	(300 ft/m)	(300 ft/m)	At cold wall	At cold wall
Random Vibration	0.002g2/Hz*	0.002g2/Hz*	0.1g2/Hz**	0.1g2/Hz**
Shock	20g***	20g***	40g***	40g***

**With a flat response to 1000 Hz, 6 dB/Oct roll-off from 1000 to 2000 Hz ** From 10 to 1000 Hz ***Peak sawtooth 11 ms duration

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