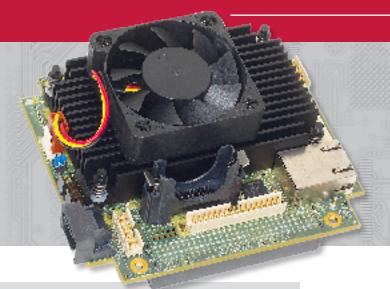


# WILDCAT

# **PCI-104 Single Board Computer**



- Intel<sup>®</sup> Core™2 Duo processor
- High-performance video
- Gigabit Ethernet
- DDR3 RAM (up to 4 GB)
- USB 2.0 (4 ports)
- Serial I/O (1 port)

- Dual SATA interface
- HD audio support
- MiniBlade™ flash socket
- Extended temp. version
- MIL-STD-202G shock/vibe
- SPX<sup>™</sup> I/O expansion

# **Highlights**

#### **PCI-104 Form Factor**

Industry standard expandable, compact, highly rugged format.

#### Intel Core 2 Duo Processor

Up to 2.26 GHz performance.

#### **High-performance Video**

3D video acceleration (Gen 5.0). Analog and LVDS flat panel outputs.

#### **Network Support**

Gigabit Ethernet with remote boot support.

#### System RAM

Up to 4 GB DDR3 RAM for system flexibility.

#### USB I/C

Four USB 2.0 ports support keyboard, mouse, and other devices.

#### Device I/O

Serial port, dual SATA interface, and HD audio support.

#### **Flash Memory**

MiniBlade socket for high-reliability flash storage.

#### **Extended Temperature Version**

-40° to +85°C operation for harsh environments.

#### MIL-STD-202G

Qualified for high shock/vibration environments.

#### **SPX Expansion**

Supports expansion with versatile SPX add-on I/O modules.

## **Overview**

The Wildcat is an embedded single board computer (SBC) featuring an Intel 2nd generation Core 2 Duo processor. Based on the PCI-104 industry standard form factor, the Wildcat supports the PCI stackable expansion bus on a 4.21" by 3.78" footprint. With its combination of ultra-high performance (up to 2.26 GHz), mid-range power consumption (19.5W typ.), ruggedness, and compact size, the Wildcat is an ideal embedded computer solution for medical, security, defense, transportation, and industrial markets. Potential applications include flight navigation, guidance systems, and evolving applications that rely on fast on-board processing of large amounts of data.

Like all VersaLogic products, the Wildcat is designed to support OEM applications where high reliability and long-term availability are required. From application design-in support, to its 5+ year production life guarantee, the Wildcat supports serious embedded applications. The Wildcat is fully RoHS compliant. Customization is available, even in low OEM quantities.

### **Details**

Driven by a 2nd generation Intel Core 2 Duo processor designed specifically for embedded applications, the Wildcat runs up to 2.26 GHz. Enhanced Intel SpeedStep® technology provides dynamic processor frequency scaling to meet instantaneous performance needs while minimizing power draw and heat dissipation. This allows users to fine-tune the balance of power conservation and performance to suit their application needs.

Intel's GS45 + ICH9M chipset offers graphics core speeds up to 533 MHz for high-end graphics, advanced 3D rendering, high-definition video playback, and media acceleration for video CODECs. Analog VGA and LVDS flat panel video interfaces support flexible display configurations including Extended Desktop, Clone, and Twin display modes.

Wildcat's standard on-board features include gigabit Ethernet, an SO-DIMM socket for up to 4 GB DDR3 RAM, four USB 2.0 ports, one serial port, dual SATA interface, support for HD audio, and a MiniBlade socket for removable flash storage. Support for keyboard, mouse, and other devices is provided via USB. VersaLogic's SPX expansion interface creates additional access to cost-effective plug-in I/O solutions.

Available in both standard (0 $^{\circ}$  to +60 $^{\circ}$ C) and extended (-40 $^{\circ}$  to +85 $^{\circ}$ C) temperature versions; the Wildcat meets MIL-STD-202G specifications for shock and vibration. The Wildcat features transient voltage suppression (TVS) devices on many external connections for enhanced electrostatic discharge (ESD) protection in the field.







# **WILDCAT**

PCI-104 Single Board Computer

The Wildcat includes an embedded BIOS with OEM enhancements from Phoenix Technologies. The field-reprogrammable BIOS supports custom defaults and the addition of firmbase applications for security processes, remote booting, and other pre-OS software functions. The Wildcat is compatible with a variety of popular operating systems including Windows, Windows Embedded, Linux, VxWorks, and QNX.



VL-EPMp-34S (Top)

VL-EPMp-34S (Bottom)

# **Ordering Information**

Model	Processor	Speed	Operating Temp.	Cooling
VL-EPMp-34S	Intel Core 2 Duo	2.26 GHz	0° to +60°C	Fan
VL-EPMp-34E	Intel Core 2 Duo	1.2 GHz	-40° to +85°C	Fan

#### **Accessories**

Wildcat Cable Kit (VL-CKR-WILD)				
VL-CBR-0401	6.25" ATX to SATA power adapter cable			
VL-CBR-0701	19.75" SATA cable			
VL-CBR-1008	ATX to 10-pin power cable			
VL-CBR-1201	12-pin 2 mm latching/15-pin VGA adapter cable			
VL-CBR-3406	I/O cable set and paddleboard			
VL-HDW-105	0.6" standoff package (metric thread)			

Accessories			
VL-CBR-1401	Cable assembly for (2) SPX modules		
VL-CBR-1402	Cable assembly for (4) SPX modules		
VL-CBR-2010	20" 18-bit LVDS flat panel cable (Hirose)		
VL-CBR-2011	20" 18-bit LVDS flat panel cable (JAE)		
VL-CBR-2012	20" 24-bit LVDS flat panel cable (Hirose)		
VL-CBR-2014	LVDS to VGA adapter board		
VL-CFA-2A	CompactFlash adapter (SATA)		
VL-ENCL-5x	Development enclosure		
VL-F23-xxxx	MiniBlade module (USB)		
VL-HDS35-320	320 GB 3.5" SATA hard drive		
VL-HDW-106	0.6" standoff package (English thread)		
VL-MM7-xxxx	DDR3 SDRAM module		
VL-SPX-x	SPX expansion modules		

Data represents standard operation at +25°C with +5V supply unless otherwise noted. Specifications are subject to change without notification. Intel, Intel Core, and SpeedStep are trademarks of Intel Corp. MiniBlade is a trademark of the SFF-SIG. SPX is a trademark of VersaLogic Corp. All other trademarks are the property of their respective owners.

05/24/12

PGI-104 Shighe Buaha Cumpater								
		ICATIONS						
General	Board Size	PCI-104 compliant: 107 mm x 96 mm (4.21" x 3.78") Intel Core 2 Duo (SP9300). Up to 1066 MHz FSB. 6 MB L2 cache. Temperature protected.  GS45 + ICH9M +5V running Windows XP with 1 GB RAM,						
	Processor							
	Chipset							
	Power Requirements							
		Ethernet, keyboard, and mouse:  Model Idle Typical Max			Max			
		VL-EPMp-34S	2.4A (12W)	3.9A (19.5W)	5.4A (27W)			
	Contain Danet 0	VL-EPMp-34E		/	3.3A (16.5W)			
	System Reset & Hardware Monitors	Watchdog timeout. V <sub>CC</sub> sensing (resets below 4.7V typ.).						
	Stackable Bus	PCI: 3.3V signaling, +5V tolerant						
	Other I/O Expansion	VersaLogic SPX interface						
	RoHS	,	oHS (2002/95/CE) compliant					
Environmental	Operating Temperature	VL-EPMp-34S	+					
	Storage Temperature	VL-EPMp-34E -40° to +85°C						
	Airflow Requirements	Free air from -40° to +85°C						
	Thermal Shock	5°C/min. over						
	Humidity	Less than 95						
	Vibration, Sinusoidal	MIL-STD-202			Condition A:			
	Sweep	2g constant a minutes per a	constant acceleration from 5 to 500 Hz, 20					
	Vibration, Random	MIL-STD-202G, Method 214A, Condition A: 5.35g rms, 5 minutes per axis						
	Mechanical Shock		MIL-STD-202G, Method 213B, Condition G 20g half-sine, 11 ms duration per axis					
Memory	System RAM	One SO-DIMM socket. Up to 4 GB DDR3 SDRAM.						
Video	General	Integrated high-performance video. Intel GMA 4500 MHD graphics core. Analog and flat par video interfaces support Extended Desktop, Clone, and Twin display modes. Optional vide adapter card converts LVDS output to VGA fo dual VGA operation.  Up to 512 MB shared DRAM						
	VRAM							
	Desktop Display Interface*	Standard and	Standard analog output (VGA)					
	OEM Flat Panel Interface	18/24-bit LVDS interface. CMOS-selectable TFT panel types.						
Mass Storage	Hard Drive	Dual SATA in	terface (Rev	rision 2.0)				
3	Flash	One MiniBlad	le socket (U	SB signaling	)			
Network	Ethernet*	One autodeted	t 10BaseT/10	0BaseTX/100	0BaseT port			
Interface	Network Boot Option	Intel boot agent (downloadable) supports PXE protocol. Argon Managed Boot Agent (optional with royalty fee) supports PXE, RPL, NetWare, TCP/IP (DHCP, BOOTP) remote boot protocols.			(optional NetWare,			
Device I/O	USB*‡	Four USB 2.0	)/1.1 ports					
	Serial*		One RS-232/422/485 selectable port. 16C550 compatible. 460 Kbps.					
	Audio‡	Digital HD audio via external codec						
Software	BIOS	Phoenix Technologies Embedded BIOS with OEM enhancements. Field reprogrammable. Support for USB keyboard/mouse and USB boot. User-configurable CMOS defaults.						
	Operating Systems	Compatible wincluding Wir VxWorks, and	idows, Wind					
* TVS protected port (e	enhanced ESD protection)							

<sup>\*</sup> TVS protected port (enhanced ESD protection)

<sup>‡</sup> Power pins on this port are overload protected