

Hurricane-QM57

EPIC Express Single Board Computer

Intel® Core™ i7 Processor

Features

Intel Core i7 processor

8 GB DDR3 ECC RAM max.

Graphics Controller integrated

2 DisplayPorts

LVDS (dual channel)

2 x Gigabit LAN

10 x USB 2.0 host ports

4 x SATA with RAID support

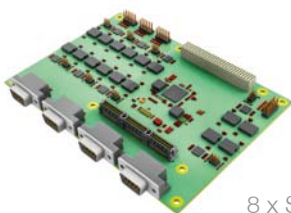
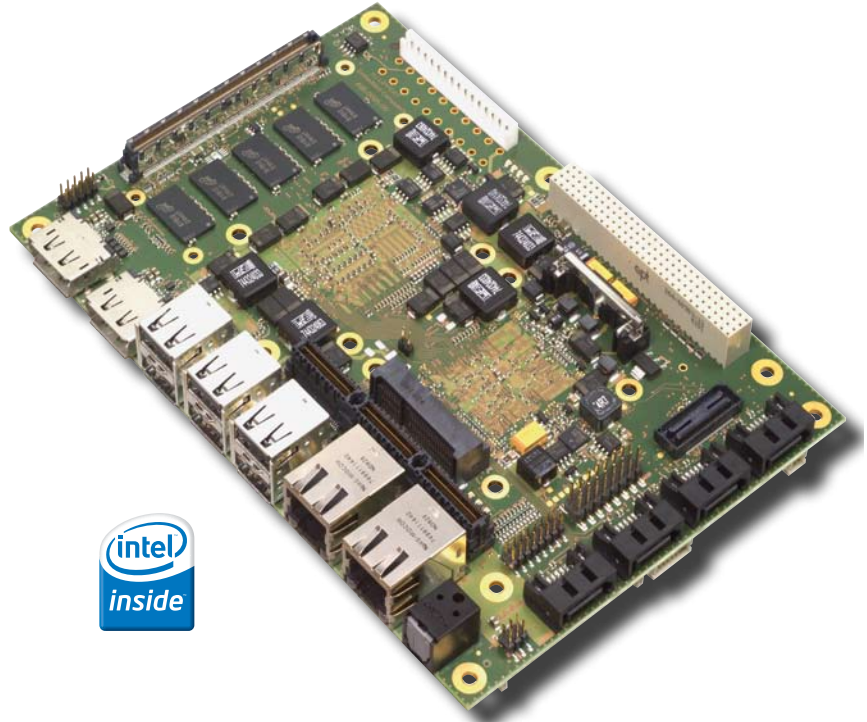
PCI Express Mini Card Slot

LEMT

Low power consumption

Optionally, extended temperature range

-40°C...+85°C



8 x Serial
EXP-ISO-COM8



8 x serial
EXP-ETH8

An Intel® Core™ i7 Processor from Intel's Embedded Roadmap and a matching Mobile Intel QM57 Express Chipset powers this high-performance single board computer. The processor supports Hyper Threading and features integrated graphics. The chipset not only handles DisplayPort and LVDS interfaces but also often required standard interfaces. Processor and chipset are both mounted on the PCB's bottom side and can be attached to a suitable cooling solution with a heat-spreader. This arrangement allows mounting of EPIC Express peripheral cards on the top and gives mechanical stability.

The Hurricane-QM57 supports up to 4 GB soldered down DDR3 ECC memory, which can be expanded using a new developed Rugged SODIMM memory module (RSOMM) to a total of 4 GB. Due to price and availability considerations, the board is currently delivered with 1 GB soldered RAM. The embedded PC board is optionally available for the extended temperature range -40°C to +85°C.

The Hurricane-QM57 features a flexibly configurable PCIe x16 lane and 4 PCIe x1 lanes. The x16 lane can handle external graphics cards. Ten USB ports are grouped into 4 internal and 6 external accessible ports. Of the latter, 2 are designed as "Power USB" ports, capable of supplying up to 1 amp to the device. All 4 SATA ports are available for the application, as well as sound via SPDIF and a 7.1 audio header. There are LVDS and 2 Display Port connectors, and a PCI Express MiniCard slot. A second Ethernet PHY and MAC are integrated, giving a total of two LAN ports.

The board features an LPC debug port, Flash BIOS, and a system management controller providing LiPPERT Enhanced Management Technology functions (LEMT). These not only take care of internal housekeeping but also provide functionality to the application. Among these are things like secure Flash area and supervision functions. Various operation state counters serve remote condition management.

The Hurricane-QM7 can be extended using peripheral cards. LiPPERT already offers EPIC Express boards like eightfold serial and eightfold Ethernet (see pictures on the left).

LiPPERT is an independent design house and manufacturer that develops and builds special customer solutions. Please ask for a specific quotation.

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LiPPERT
THE EMBEDDED PC COMPANY

Hurricane-QM57

EPIC Express Single Board Computer

Intel® Core™ i7 Processor

Technical Data

Board Format	EPIC Express 115.00 x 165.00 mm (4.528 x 6.496 inches)	Status LED	HDD, power, standby, power mode, live, 4x Ethernet, watchdog
Processor	Intel Core i7 processor i7 – 620UE, 1.06 GHz, Dual Core i7 – 610E, 2.53 GHz, Dual Core	MiniCard	Standard PCI Express MiniCard slot
Chipset	Mobile Intel QM57 Express	PCI Express Bus	PCI/104-Express connector with - 4 x1 lanes (PCIe 1.0a) - 1 x16 lane (2.5Gbit/s, PCIe 2.0 compliant)
RAM	8 GB DDR3 ECC RAM maximum - 4 GB soldered - 4 GB RSOMM module optional	PCI Bus	PC/104-Plus
RAM Clock	DDR3 — 1066	LPC Bus	Yes
Graphics	Intel HD Graphics 2560 x 1920 pixels	SPI Bus	Yes
DisplayPort	2 connectors	SMB Bus	Yes
LVDS	Dual channel - 18 bit - 24 bit	RTC Backup	Integrated battery
USB	6xUSB 2.0 host, external access with 2x "power USB", 1 A max. 4xUSB 2.0 host, internal only	Operating temperature	0°C...+60°C (commercial) -20°C...+60°C (industrial) -40°C...+85°C (extended)
Ethernet	2 x Gigabit LAN - Integrated in chipset - Intel 82574	Power Supply	ATX 1.3 compatible
SATA	4 ports Support for RAID 0, 1, 5, 10	Power Consumption	25 – 40 watts, depending on processor type
Sound	- Optical SPDIF - Analog 7.1 (Azalia)	Cooling	Passive cooling possible Heatspreader available
Watchdog	Yes	MTBF	128 820 hours at 25 °C
		Shock & Vibration	t.b.d.
		BIOS	Phoenix BIOS
		AMT	Version 6.0
		Supported OS	Windows 7, Windows XP, XP Embedded, Linux

Ordering Information

Ordering Number	Description
†14-0006-00	EPIC CPU board with Intel Core i7-620UE, 1.06 GHz, dual core, 2 GB RAM, with heat-spreader
†14-0007-00	EPIC CPU board with Intel Core i7-610E, 2.53 GHz, dual core, 2 GB RAM, with heat-spreader
†60-0027-10	RAM, unbuffered ECC, RSOMM, REVERSE, 2GB

Note: † denotes the temperature range. Use 7 for commercial, 8 for industrial and 9 for extended temperature range
Other processor and memory configurations are available on request.



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