

QUANTUM-iMX6 SBCs



PCI/104-Express ARM i.MX6 SBCs

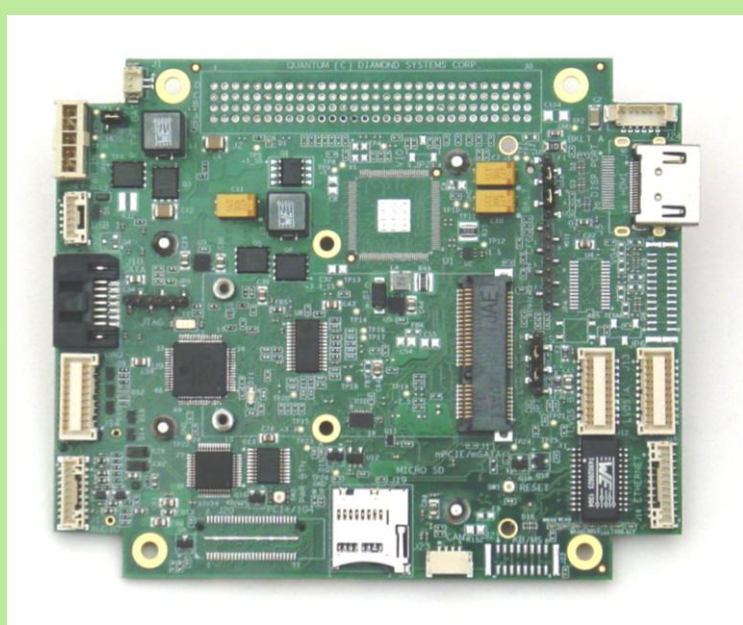
With On-board Data Acquisition and DC/DC Power Supply



PCI + PCIe



CPU+DAQ+PS



High Feature Density

The Quantum-iMX6 SBCs come with a QSeven COM offering a selection of Freescale ARM A9 i.MX6 modules with single/dual/quad core up to 1.2GHz. Quantum SBCs include an on-board DC power supply and a data acquisition circuit with analog input and digital I/O, resulting in a highly integrated single board computer that can replace up to 3 individual PC/104 modules.

The SBCs also feature MPEG-4 video encoding and decoding with high resolution HDMI graphics and dual-channel LVDS display outputs.

Rugged Design

Quantum-iMX6 SBCs feature an operating temperature of -40°C to +85°C, soldered DDR3 SDRAM, wide voltage input, and high tolerance for shock and vibration, making it an ideal choice for vehicle, outdoor and harsh environment applications. The processor is located on the bottom side with a conduction cooling heat spreader to efficiently transfer the heat away from the SBC.

CPU FEATURES

- ◆ 3-in-1 design (CPU + DAQ + Power) reduces size and cost, increases ruggedness and reliability
- ◆ 1GHz Freescale A9 i.MX6 single/dual/quad core CPUs
- ◆ Up to 2GB DDR3 SDRAM on-board
- ◆ 4GB on-board MLC flash

I/O FEATURES

- ◆ 1 Gigabit Ethernet
- ◆ 5 USB 2.0 ports
- ◆ 1 SATA port for external mass storage
- ◆ 2 RS-232/422/485 ports & 1 RS-232 port
- ◆ Dual channel 18/24-bit LVDS LCD support
- ◆ 1 HDMI port
- ◆ 1 CAN 2.0 port
- ◆ 1 SDIO socket
- ◆ High definition audio
- ◆ PS/2 keyboard & mouse
- ◆ Watchdog timer
- ◆ mSATA flashdisk socket
- ◆ RTC backup battery

DATA ACQUISITION FEATURES

- ◆ 4 12-bit analog inputs
- ◆ 10 digital I/O lines
- ◆ 2 counter / timers
- ◆ 4 pulse width modulators

I/O EXPANSION

- ◆ PCIe MiniCard socket

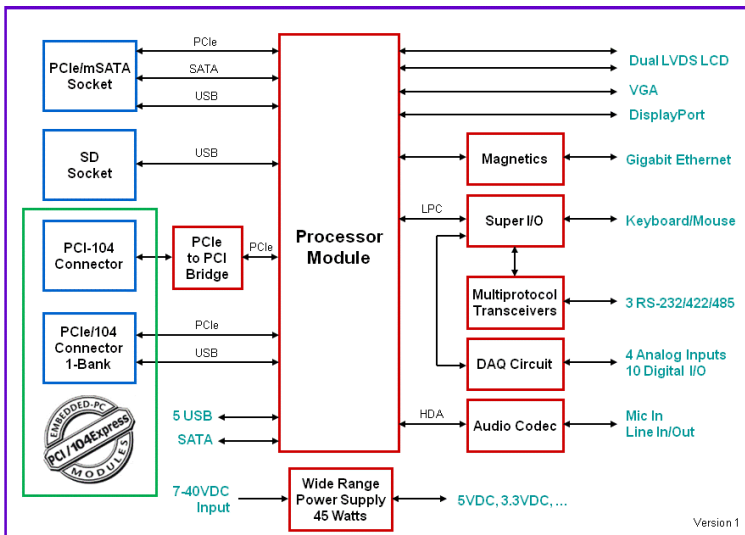
GENERAL

- ◆ +6 to +32VDC wide voltage power input
- ◆ PC/104 form factor (4.550" x 3.775")
- ◆ -40°C to +85°C (-40°F to +185°F) operating temperature (model dependent)

Specifications

Processor	1.0GHz i.MX6 quad core CPU, 1.0GHz i.MX6 dual core CPU (special order), 1.0GHz i.MX6 single core CPU
Cooling	Heat spreader or fan-less heat sink
Memory	Up to 2GB 1.3MHz DDR3 SDRAM on-board
On-board flash	4GB MLC flash
Display type	Dual channel 18 or 24-bit LVDS LCD 1 HDMI port
Graphics	1080p MPEG-4 video encoding/decoding
Display resolution	1920 X 1080 maximum
USB ports	5 USB 2.0
Serial ports	2 RS-232/422/485; 1 RS-232
Networking	1 Gigabit Ethernet from Realtek RTL8111E
SDIO	1
CAN	1 CAN 2.0 port
Keyboard/Mouse	PS/2
Audio	HD audio from Realtek ALC262
Mass storage	mSATA socket * 1 SATA port
Analog inputs	4 12-bit A/D
Digital I/O	10 lines
PWM	4 channels
Counter / timers	2 programmable
RTC	RTC with battery backup
Utility signals	WDT trigger; Reset; Power switch; Sleep; Battery low alarm; Ethernet LEDs
I/O expansion	PCIe MiniCard socket *
Input power	+6 to +32V DC power supply or +5VDC +/-5%
Operating temp	0°C to +71°C single core model -40°C to +85°C all other models
Shock & Vibration	VITA 47 compatible
Dimensions	4.550" x 3.775" (PCI-104 form factor)

* Shared socket with auto-sensing



Development Kits

System Development Kits are available with all the components you need for your embedded design project. The kit contains a Quantum SBC, flashdisk with Linux or Windows 7 pre-loaded, cable kit, AC adapter, and software CD.

Software Support

Quantum SBCs run Linux, Windows Embedded Standard 7, and Windows XP. Linux and Windows Embedded Standard 7 Software Development Kits are available with bootable images and drivers to get you started on your design project right out of the box.

Cable Kit

The Quantum Cable Kit includes cables for most of the on-board I/O. A cable kit is strongly recommended for first-time buyers, as many cables are non-standard.

Ordering Information

QUA-MX6-410-2GI	Quantum SBC, 1.0GHz i.MX6 quad core CPU, 2GB RAM, full data acquisition (special order without on-board flash)
QUA-MX6-210-2GI	Quantum SBC, 1.0GHz i.MX6 dual core CPU, 2GB RAM, full data acquisition (special order only with or without on-board flash)
QUA-MX6-110-2GC	Quantum SBC, 1.0GHz i.MX6 single core CPU, 2GB RAM, full data acquisition (special order without on-board flash)
DK-QUAMX64-LNX	Quantum Development Kit with QUA-MX6-410-2GI SBC, cables and Linux software
DK-QUAMX61-LNX	Quantum Development Kit with QUA-MX6-110-2GC SBC, cables and Linux software
SDK-QUAMX-WE7	Quantum-iMX6 Windows Embedded Standard 7 Software Development Kit
SDK-QUAMX-LNX	Quantum-iMX6 Linux Software Development Kit
CK-QUA-01	Quantum Cable Kit for most on-board I/O