

Quartz CPU Module

Accelerating Embedded Development

Create connected devices faster with the Freescale Vybrid-enabled Quartz CPU module

Reduce Development Time and Cost

Focus on your product, and not on complex processor design

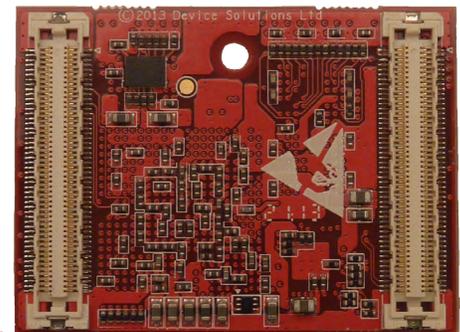
When you start a project using Quartz, you eliminate a big piece of complex and risky design work. There is no memory interfacing or power supply design work to be done. You can also forget about having to lay out multi-layer boards with several BGA chips; that work is done too and it's all packaged into a module that is easy to integrate into your final design.

Start writing your application, and not porting an Operating System

Don't spend time writing low-level C and assembly code, or spending hours bringing up your prototypes. Quartz runs Linux, MQX and Windows Embedded Compact 2013. Choose the OS you need, the tools you know, and get to work on the features your customers are looking for.

Get started on real hardware

The Quartz Development Kit provides a platform for evaluation and prototyping of new designs. Common features are available on the board and expansion connectors make it easy to add application specific components.



Dual-Core Freescale Vybrid SoC for performance AND low power

Cortex-A5 CPU + Accelerated Graphics

The Freescale Vybrid processor at the heart of the Quartz module includes a powerful 400MHz Cortex-A5 core coupled with graphics acceleration to enable compelling user interfaces.

Cortex-M4 for real time and low power

Partition your application to reduce complexity and power consumption. Vybrid also includes a Cortex-M4 for low power control of sensors.

The complete package for your application

Core components in one package

Quartz includes a Vybrid SoC with fast DDR3 RAM, flash, Ethernet PHYs and power supply components in a single, easy-to-design-with package.

Choice of form-factor to fit your design

Quartz is available as a compact 45mm x 33mm module with high-density connectors for maximum flexibility and an ultra-small 38mm x 38mm x 2mm surface-mount LGA module for lowest cost and size.

Applications

- Human Machine Interface (HMI)
- Data Logging
- Vending Machines
- Building Automation and Security
- Automotive Displays
- Medical Devices
- Industrial Controllers
- Retail Displays
- Wireless Gateways



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Quartz CPU Module - Detailed Features

Core

- Freescale Vybrid VF6xx SoC
- ARM® Cortex™-A5 up to 500MHz
- ARM® Cortex™-M4 up to 167MHz
- 256MBytes DDR 3 RAM
- 256MBytes NAND Flash
- Single 3.3V supply

Graphics and User Interface

- TFT LCD controller up to 1024x768
- Graphics Accelerator
- Video Input

Connectivity

- Dual 10/100 Ethernet including PHY
- 2x FlexCAN
- High-speed USB Host and OTG

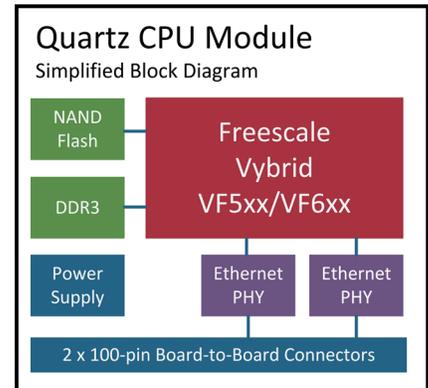
- SD/SDIO/MMC
- I²C
- 6 x UART
- SPI
- I²S and SPDIF for Audio
- 2x 12-bit ADC + 2x 12-bit DAC
- Tamper detection and security
- 3.3V General Purpose I/O

Operating System Support

- Linux
- Freescale MQX
- Microsoft Windows Embedded Compact 2013

Form-Factor Options

- High-density 2x100-pin Hirose connectors
45mm x 33.5mm x 7mm
- Surface-mount LGA - 38mm x 38mm x 2mm



Quartz Development Kit

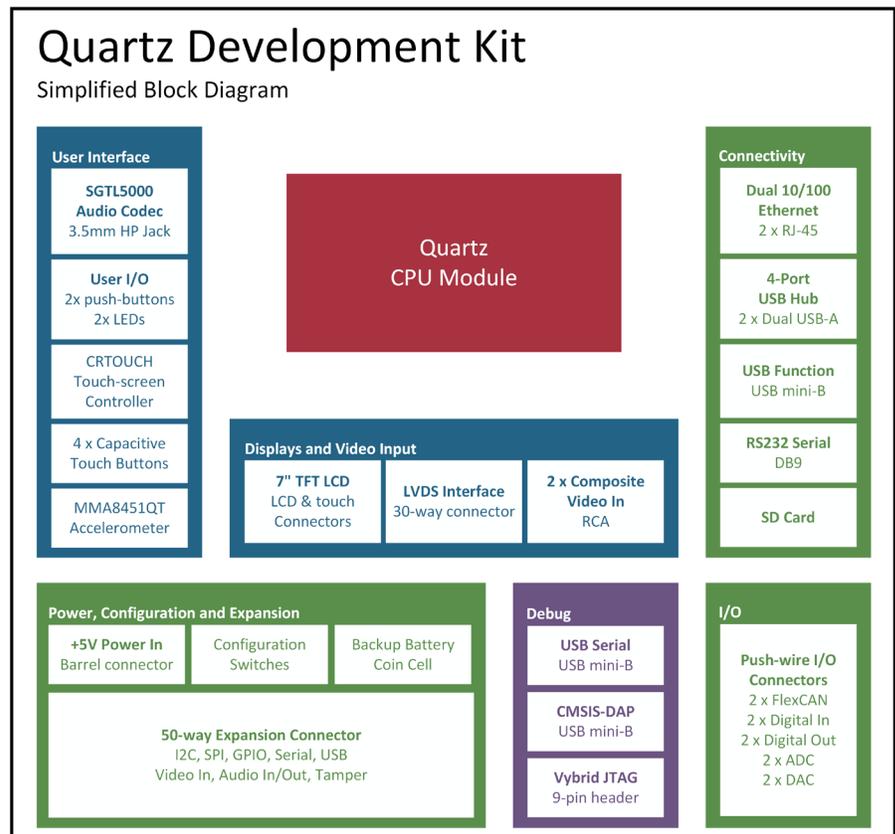
The Quartz Development Kit is an ideal platform for evaluation and prototyping new devices.

Highlights

- Quartz CPU Module
- Dual 10/100 Ethernet
- 7" LCD with touch-screen
- LVDS Display Interface
- Composite video input
- 2 x CAN including transceivers
- Digital and Analog I/O
- 4 x USB Host

Design Support

Device Solutions partner network offers product development services from design support through to turn-key manufacturing.



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