Qseven® Module with NXP® i. MX6 family processor

PQ7-M640F

- Ultra low power consumption: 2W (Single core) ~ 6W (Quad core)
- More than 10 years longevity support
- Graphics accelerators built in. Open GL ES2.0, Open VG1.1 supported
- Supports LVDS and Display-port interfaces
- Multi-format of encode & decode
- ARM ECO system to save customers' development time to market

Specifications

CPU

NXP i.MX 6Solo, 1 core, 1 GHz, 512KB L2 cache, 1 display, no SATA
NXP i.MX 6Dual, 2 cores, 800 MHz, 1MB L2 cache, 3 displays, 1x SATA
NXP i.MX 6DualLite, 2 cores, 1 GHz, 512KB L2 cache, 1 display, no SATA
NXP i.MX 6Quad, 4cores, 800 MHz, 1MB L2 cache, 3 displays, 1x SATA

Memory

DDR3L at 1066 MT/s
512MB to 2GB

Storage

eMMC 5.0 onboard flash up to 64 GB

DisplayPort Interface (DDI0/DDI1)

24-bit Dual Channel LVDS up to 1920x1200@60Hz
HDMI 1.4b up to 1080p
Video Input Port / Camera Connector

Audio

I²S/HDA interface
NXP SGTL5000 (on evaluation carrier board) via I²S interface

Ethernet

10/100/1000 GbE

I/O Interfaces

PCIe

1x PCIe x1 Gen2

USB

4x USB2.0 HOST
1x USB OTG

SATA

1x SATA 2.0 (3 Gb/s)

Other I/O Interfaces

1x SDIO, 2x SPI, 2x I²C, , 2x CANBus, 4x UART, 2x GPIO

Video

GPU Feature Support

Dedicated 2D Hardware accelerator
Dedicated 3D Hardware accelerator, supports OpenGL® ES 2.0 3D
Dedicated Vector Graphics accelerator supports OpenVG™ (only i.MX6D and i.MX6Q)
Supports up to 3 independent displays with i.MX6D and i.MX6Q
Supports 2 independent displays with i.MX6DL and i.MX6S

Mechanical and Environmental

Form Factor

Qseven® 2.0

Dimension

Qseven® module, 70 mm x 70 mm

Operating Temperature

Commercial: 0°C to +60°C

Industrial: -40ºC to +85ºC

Humidity

10-90% RH operating, non-condensing

5-95% RH storage (and operating with conformal coating)

Power

Standard Input

5V DC ±5%

Power Management

NXP PMIC (PF0100)
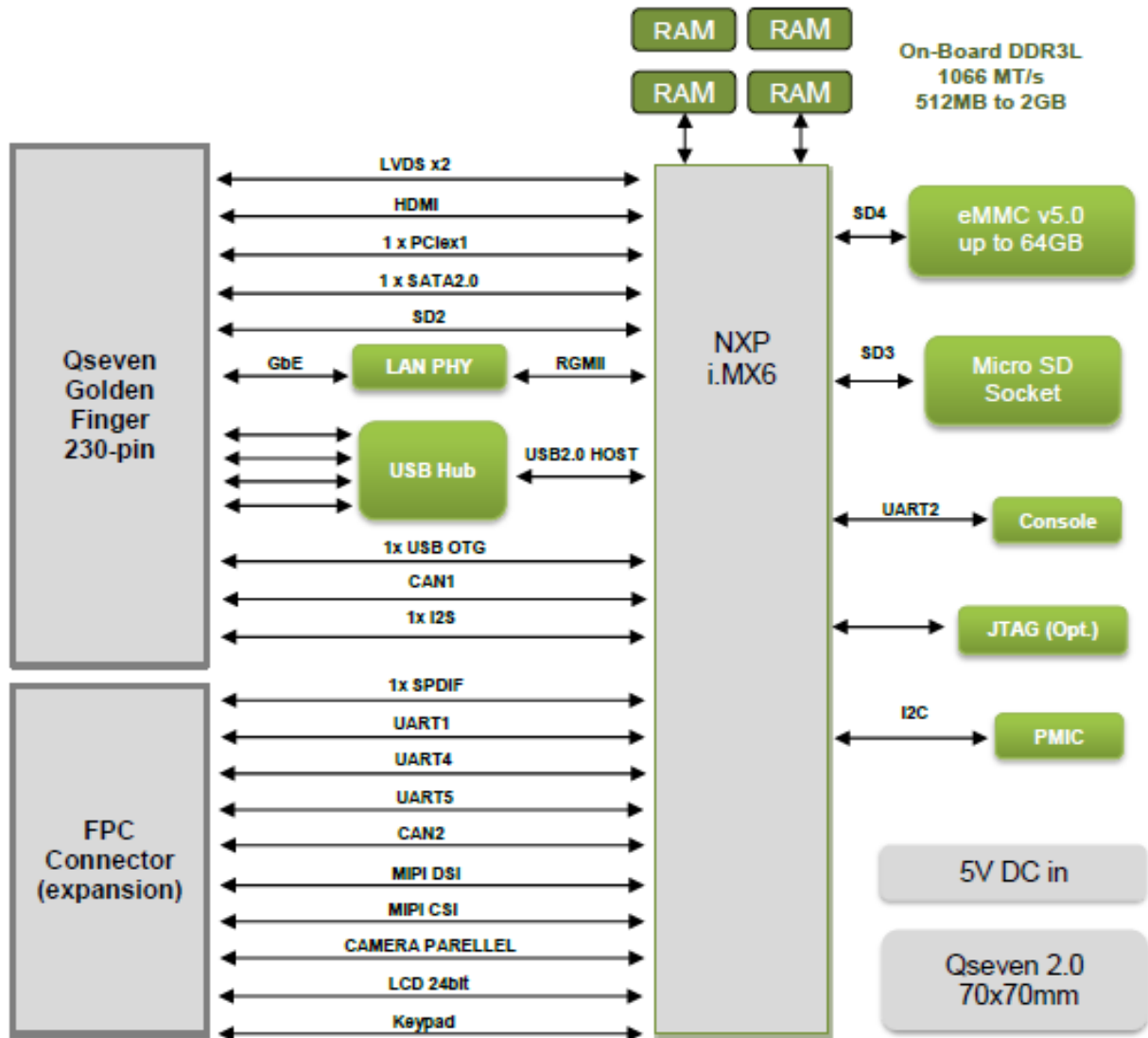
Power Consumption

2W~6W (CPU)

Operation System

Standard Support

Linux l Yocto 1.7

(BSP: Kerner 3.14.28_Uboot 2013.10)

Functional Diagram

PQ7-M640F   Block Diagram