

## SMARC™ Module with NXP® i.MX6 family processor

# PSMC-M640F2

- NXP i.MX6 ARM Cortex A9 Solo, DualLite, Dual or Quad processor
- On Board DDR3L DRAM from 512MB to 2GB
- Triple display support (HDMI, LVDS, MIPI-DSI)
- Dual Lan Ports, USB 2.0 up to 5 (incl. 1x OTG)
- Up to 64 GB eMMC, 1x SD card socket, 1x SD/MMC. 1x SATA 3Gb/s
- Wide Voltage input (+3~5.25VDC)



## Specifications

### CPU

NXP i.MX6Solo, 1 core, 1 GHz, 512KB L2 cache, 1 display, no SATA  
 NXP i.MX6Dual, 2 cores, 800 MHz, 1MB L2 cache, 3 displays, 1x SATA  
 NXP i.MX6Quad, 4 cores, 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  
 Micro SD Card connector on board

### DisplayPort Interface

24-bit Dual Channel LVDS up to 1920x1200@60Hz  
 HDMI 1.4b up to 1080p  
 MIPI DSI

### Ethernet

2x 10/100/1000 GbE (1 port share with PCIe1)

### I/O Interfaces

#### PCIe

1x PCIe x1 Gen2 (Opt. to Lan port)

#### USB

4x USB 2.0 HOST  
 1x USB OTG

#### SATA

1x SATA 2.0 (3 Gb/s)

#### Other interfaces

1x SDIO, 2x SPI, 3x I<sup>2</sup>C, 4x UART, 2x I<sup>2</sup>S, 2x CAN bus, 12x GPIO  
 2x MIPI-CSI (2 wire/ 4 wire)

## 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

SMARC Specifications v2.0

### Dimension

SMARC module, 82 mm x 50 mm

### Operating Temperature

Commercial: 0°C to +60°C  
 Industrial: -40°C to +85°C

### Humidity

10-90% RH operating, non-condensing  
 5-95% RH storage (and operating with conformal coating)

### Power Management

NXP PMIC (PF0100)

### Power Consumption

2W~6W (CPU)

## Operation System

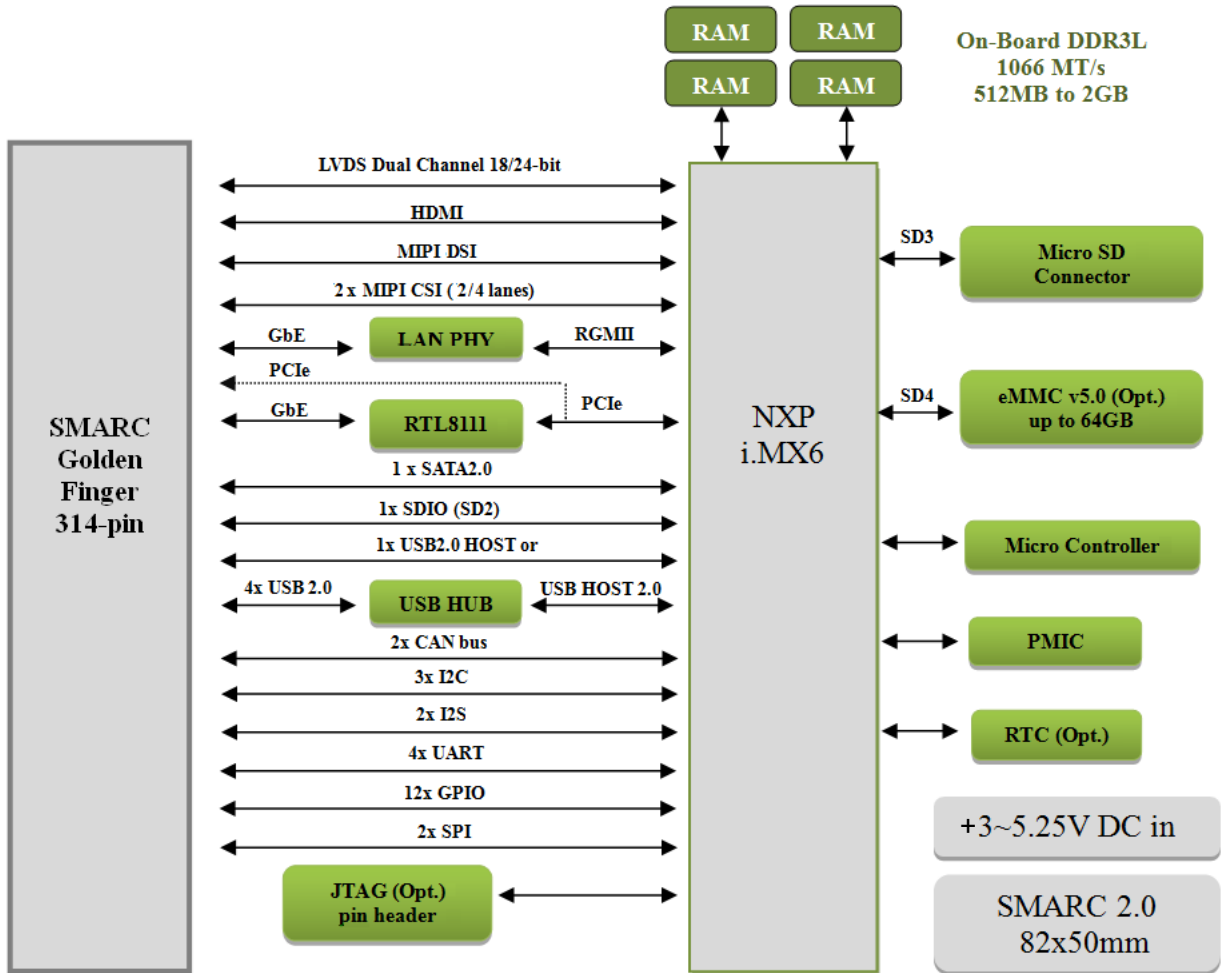
### Standard Support

Linux | Yocto 1.7  
 (BSP: Kerner 3.14.28\_Uboot 2013.10)

# Functional Diagram

PSMC-M640F2

Block Diagram



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