

# embedian



## SMARC-FIMX7



## HIGHLIGHTS

- Freescale i.MX7 ARM Cortex-A7
- 800MHz/1GHz, Solo or Dual Core
- Up to 1GB DDR3, 4GB eMMC, SDIO
- Dual-Channelled LVDS 1080p
- 2 x CAN, 4 x UART, 4 x I<sup>2</sup>C, 1 x PCIe Gen 2.1
- 2 Gigabit LAN
- Long-term availability (10+ years)
- SMARC 2.0 Compliant

## Energy efficient for future designs

The SMARC-FiMX7, based on i.MX7 from NXP combines an ARM Dual Cortex-A7 core technology with a variety of interfaces. The integrated graphics controller supports applications with display requirements. For various applications such as networking, industrial automation and controls with requirements for fast and secure data processing, there are two CPU variants available. With a single-/dual-core ARM Cortex-A7 core and clock up to 2 x 1.0GHz, the SMARC-FiMX7 provides a balanced ratio between high performance and power dissipation.

The SMARC-FiMX7 is also the world first i.MX7 computer on modules that support SMARC 2.0 standards.

## SMARC - The standard for Computer on Modules

High-performing and connected mini-computers, so-called embedded systems, have already been in industrial, corporate, and private use for some time now and have been essential for many IoT applications. They are at the same time extremely small, very robust, and high performing; they collect, analyze, and interpret data to identify optimization opportunities and thus contribute to corporate success. Embedded systems are often based on the Smart Mobility Architecture – short: SMARC –, a standard for Computer on Modules (COMs). SMARC is relevant for a wide range of use, from automation solutions to graphic and image-centered devices that need low energy consumption and the ability to endure extreme environmental conditions. The modules are also used as building blocks for very small hand-held devices as well as for larger terminal devices which must deliver exceptional performance on only a few watts. SMARC's possibilities range from industrial production to smart phones, tablets, and advanced human-machine interfaces. And it will develop further.



modularized  
design

low power

wide

temperature

extensive

supports

cost

effective

high

performance

long

lifecycle

## Technical Information

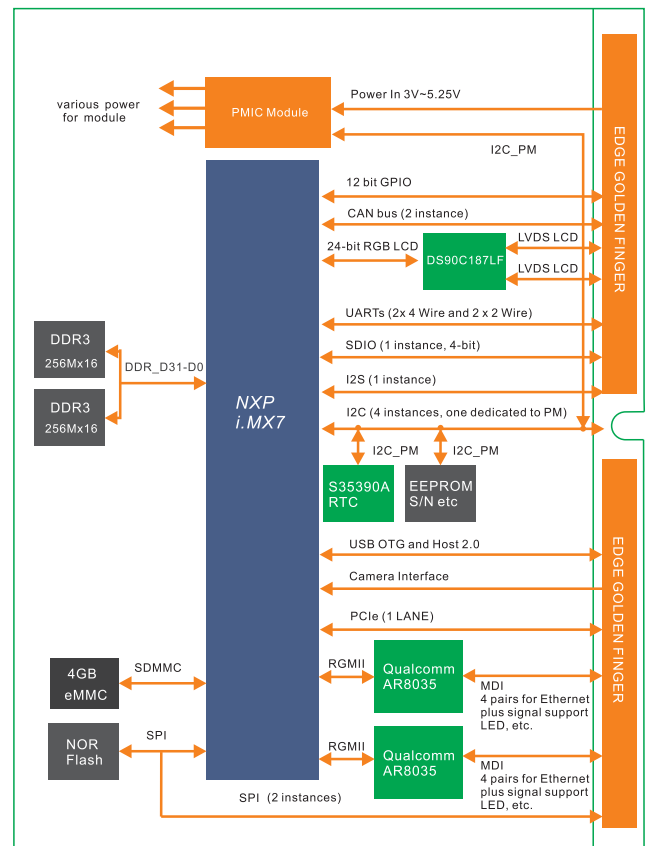
### SMARC-FIMX7 Module

<b>Processor</b>	Freescale i.MX7 800MHz/1GHz ARM Cortex-A7
<b>Memory</b>	Onboard 4GB eMMC Onboard DDR3 up to 1GB Onboard 4MB SPI NOR Flash Onboard 4KB EEPROM
<b>Networking</b>	2 x 10/100/1000Mbps Ethernet
<b>Display</b>	Dual-Channelled LVDS
<b>Expansion</b>	SD/SDHC, USB Host 2.0, PCIe
<b>USB</b>	1 x USB Host 2.0, 1 x USB OTG
<b>Additional Interfaces</b>	4 x UARTs, 2 x SPIs, 4 x I2C, 1 x I2S, 2 x CAN Bus, Camera Input, PWM, 12 x GPIOs
<b>SW Support</b>	Linux 4.1 Yocto or Android
<b>Power</b>	2.5 Watts typical

### Evaluation Carrier (mini-ITX, 12V)

<b>Ethernet</b>	2 (RJ45)
<b>RS 232</b>	4 (DSUB and 2mm header)
<b>USB</b>	1 mini B and 4 Type A
<b>SATA</b>	SATA Connector
<b>SD/SDIO Card Slot</b>	1
<b>CAN Bus</b>	2 (10-way 2mm header)
<b>SPI</b>	2 (14-way 2mm header)
<b>I2C</b>	4 (14-way 2mm header)
<b>GPIO</b>	1 (14-way 2mm header)
<b>LVDS</b>	1(24-bit ZIF)
<b>HDMI/DP</b>	HDMI/DP Connector
<b>PCIe/mini-PCIe</b>	1 PCIe4 and 2 x mini-PCIe
<b>Stereo Audio</b>	1 (3.5mm Audio Jack)

## Block Diagram



### SMARC 2.0 Evaluation Kit – Accelerated Design

The SMARC 2.0 module Evaluation Kit is intended to serve multiple needs and summarized as followed:

- SMARC 2.0 module bring-up platform for hardware and software development.
- Module validation platform.
- Customer evaluation platform.
- Customer design reference.
- Manufacturing test platform.
- Flexible prototyping vehicle (facilitated by multiple mezzanines).