embedian

A7

SMARC freescale

SMARC-FIMX7

HIGHLIGHTS

- Freescale i.MX7 ARM Cortex-A7
- 800MHz/1GHz, Solo or Dual Core
- Up to 1GB DDR3L, 8GB eMMC, SDIO
- Dual-Channelled LVDS 1080p
- 2 x CAN, 4 x UART, 4 x I^2C, 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

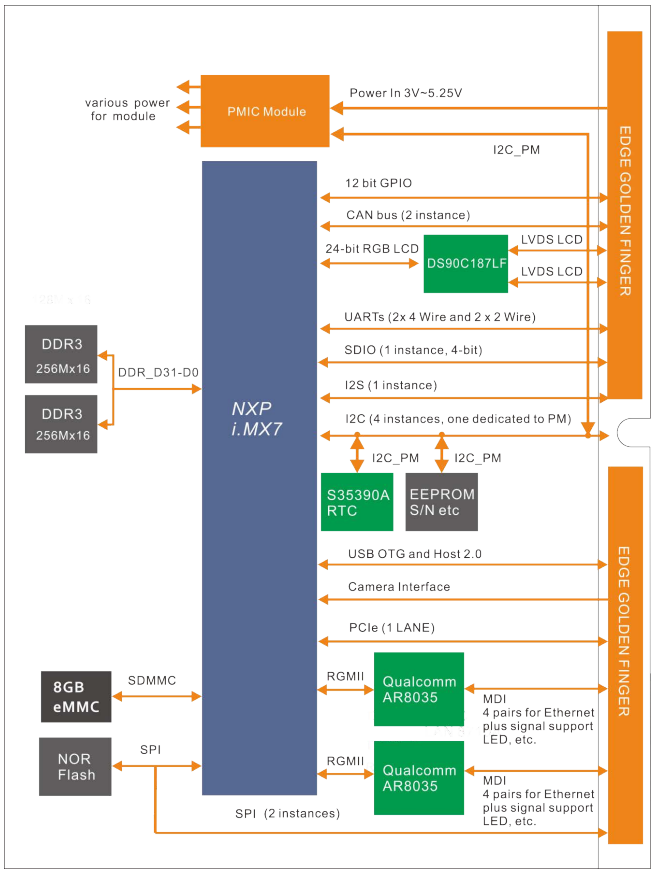
SMARC-FIMX7 Module

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

Evaluation Carrier (mini-ITX, 12V)

Ethernet	2 (RJ45)
RS 232	4 (DSUB and 2mm header)
USB	1 mini B and 4 Type A
SATA	SATA Connector
SD/SDIO Card Slot	1
CAN Bus	2 (10-way 2mm header)
SPI	2 (14-way 2mm header)
I2C	4 (14-way 2mm header)
GPIO	1 (14-way 2mm header)
LVDS	1(24-bit ZIF)
HDMI/DP	HDMI/DP Connector
PCIe/mini-PCIe	1 PCIex4 and 2 x mini-PCIe
Stereo Audio	1 (3.5mm Audio Jack)

Block Diagram



SMARC 2.0 Evakuation 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).

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