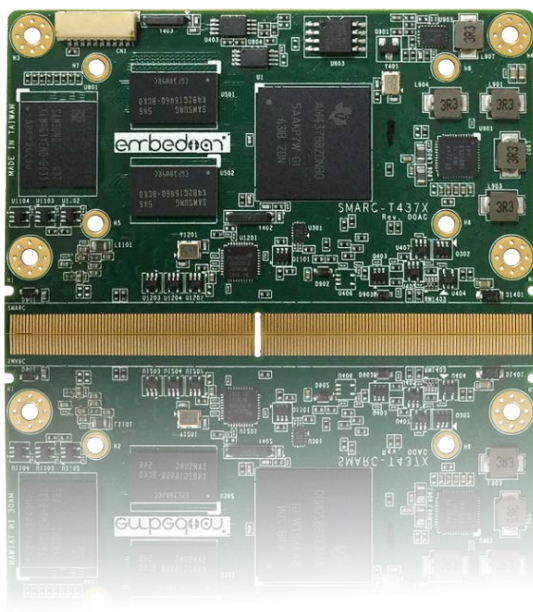embedian

SMARC   TEXAS INSTRUMENTS

A9

SMARC-T4378

HIGHLIGHTS

- TI Sitara AM4378 ARM Cortex-A9
- 800Mhz or 1GHz Solo Core
- Up to 1GB DDR3L, 4GB eMMC, 2 x SD/MMC
- 24-bit Parallel RGB
- 2CAN, 4UART, 3I^{2}C, 2SPI
- 2 x Gigabit LAN
- Long-term availability (10+ years)
- SMARC 1.0 and 1.1 Compliant

SMARC-T4378 with maximum flexibility

Embedian continues to optimize and expand its portfolio of SMARC solutions for the embedded market. With the Sitara AM4378 processors support for the ARM Cortex-A9 core, extending performance by up to 40 percent over the Sitara AM335X processor line and up to 1GHz. These high performance successors to the popular SMARC-T335X platform integrate additional features to support a variety of markets from human machine interfaces (HMI) to IoT gateways to industrial automation.

The benefits of standardization are listed as follows.

Standard architectures
Allows software teams to develop new applications faster with fewer people.

Scalable and flexible
More module offerings can be applied to the same platform.

Reduced cost
Mass production equals a better price performance ratio

Improved quality
Mass production equals higher product quality

Improved negotiating power for the buyer
Standards drive product differentiation and competition toward price and service and away from features.
This gives buyer both better pricing and better support.

modularized design

low power

wide temperature

extensive supports

cost effective

high performance

long lifecycle

Technical Information

SMARC-T4378 Module

Processor	TI Sitara AM4378 800Mhz or 1GHz ARM Cortex-A9
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	24-bit Parallel RGB
Expansion	2 x SD/SDHC, USB Host 2.0
USB	1 x USB Host 2.0, 1 x USB OTG
Additional Interfaces	4 x UARTs, 2 x SPIs, 3 x I2C, 1 x I2S, 2 x CAN Bus, PWM, 12 x GPIOs
SW Support	Linux 4.1.10 Yocto or Android Kitkat
Power	2.0 Watts typical

Evaluation Carrier (mini-ITX, 12V)

Ethernet	2 (RJ45)
RS 232	4 (DSUB and 2mm header)
USB	1 mini B and 1 Type A
SDMMC	4GB eMMC on Carrier
SD/SDIO Card Slot	1
CAN Bus	2 (10-way 2mm header)
SPI	2 (14-way 2mm header)
I2C	2 (14-way 2mm header)
GPIO	1 (14-way 2mm header)
Parallel LCD	1 (24-bit DSUB15)
Stereo Audio	1 (3.5mm Audio Jack)
SMARC Compliance	1.8V and 3.3V VDDIO

Block Diagram
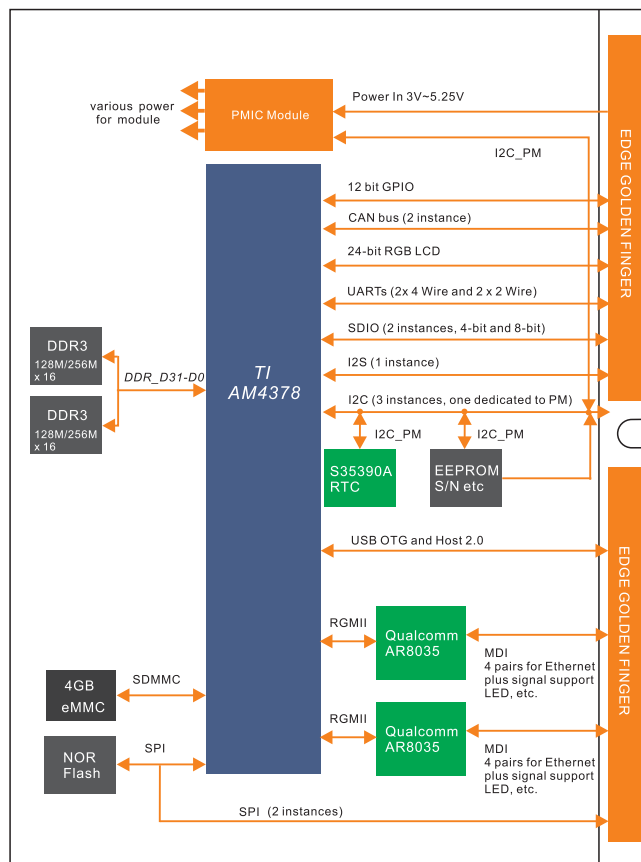
Evakuation Kit — Accelerated Design

The SMARC-T4378 Evaluation Kit is intended to serve multiple needs and summarized as followed:

- SMARC-T4378 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).